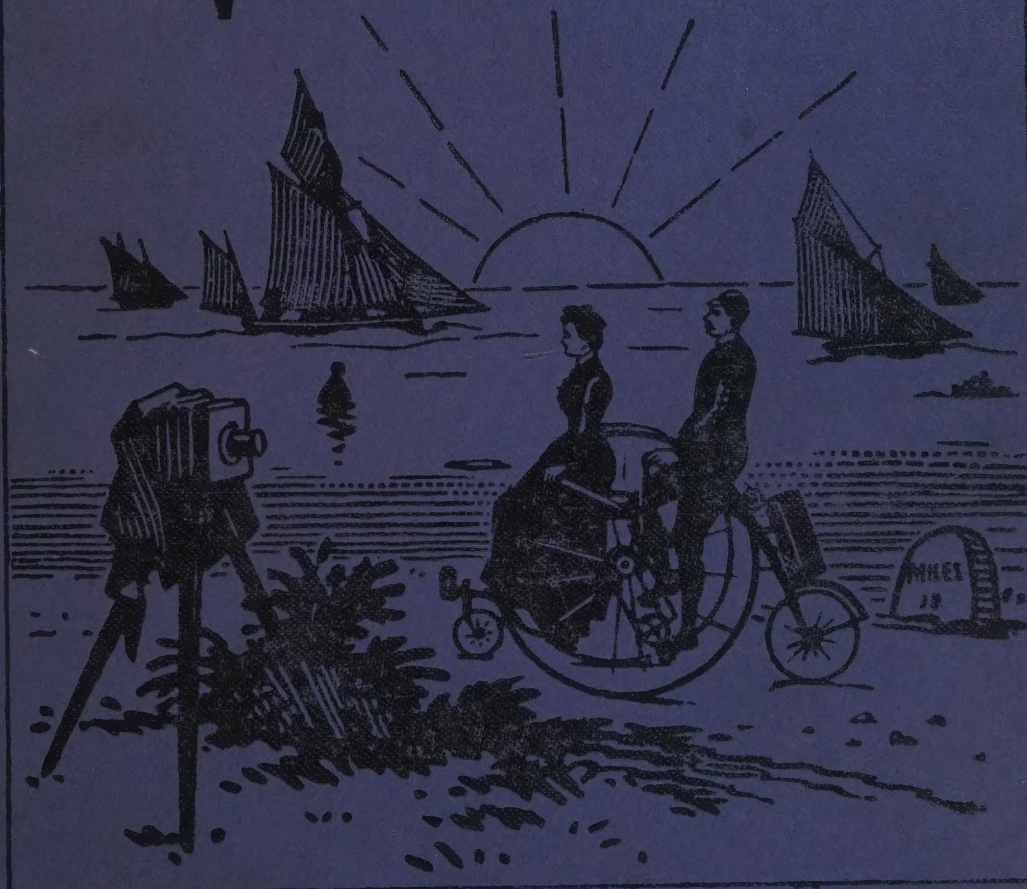
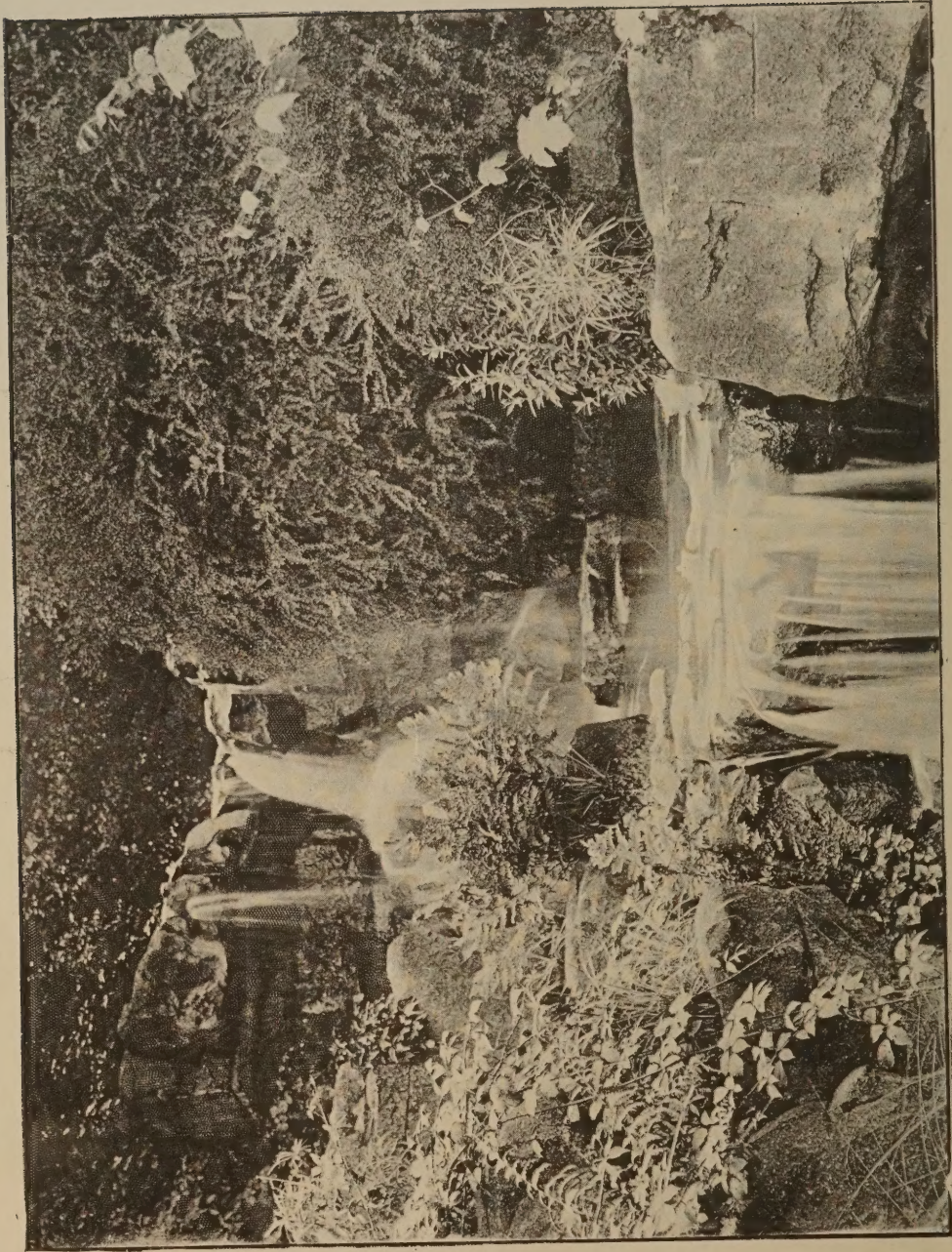


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J. Pearson Mitchell.
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"WATERFALL," BATTERSEA PARK.

By W. T. GOODHEW.

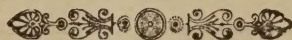
[This Photograph was Awarded THE AMATEUR PHOTOGRAPHER Bronze Medal at the Exhibition of Members' Work of the North Middlesex Photographic Club.]

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OUR VIEWS.

"To hold as 'twere the mirror up to nature."—*Shakespeare.*

NOTE.—All Communications for the Editorial Department are to be addressed to—

The Editors,

"Amateur Photographer,"

1, Creed Lane, Ludgate Hill,
London, E.C.

The Editors are "At Home" on Tuesday Afternoons from 2 o'clock till 5.

"HEARTY good wishes" to all for a prosperous and happy year. In looking back, those who endeavour to do their best are always conscious of not having succeeded. We are fully alive to the fact that during the year 1889 we did not do all that we intended to do. For our *laches* we crave the kind indulgence of our readers, and now offer them our assurance that no effort shall be lacking on our part to render a better account of ourselves for the year of grace 1890.

During the year 1889 we have treated many subjects editorially, and shall continue to do so. Not many new matters or processes have come to light during the past year. Hydroquinone has been much used, and almost every maker has adopted a formula especially suited to his own plates. There appears to be no doubt that for lantern slides hydroquinone is *facile princeps* the best developer, but many hold grave doubts as to its suitability for the development of a good printing negative.

Film photography advances, and the latest application of celluloid films is due to the enterprise of the Eastman Company; we of course refer to what has been termed their *rollable film*. The few results that we have seen are admirable. Some question the keeping qualities of the film, owing to its composition, but at present at least no evidence has been brought forward to support such fears.

Mr. Lyonel Clark, who is a very careful experimentalist, has succeeded in toning with platinum salts, ordinary albumenised paper, and almost any other vehicle. His results

have been much admired, and we have succeeded in inducing him to write a short brochure upon "Platinum Toning." This book is in the press, and will shortly be published at the popular price of one shilling. It will form No. 1 of the AMATEUR PHOTOGRAPHER'S Library. We have already announced the titles and contents of the first six volumes of the "Library" series. This series will make quite a new departure in photographic literature.

A subject which occupied the very earnest attention of many of our readers, and formed the text for several contributions to our correspondence columns early in the year, was the "Timing of Shutters." In this connection we may mention the very excellent articles by Mr. Jas. Stelfox, Mr. W. J. Wilson, describing his "Shutter Chronograph," and numerous correspondents. The series of competitive papers on "Shutters" also gave much useful information upon the subject.

The monthly competitive papers, for which prizes have been given, have resulted in the receipt and publication of many very valuable articles, and have dealt with Cameras; Lenses; Shutters; The sensitive medium, and its support; Exposure; Development; Intensification and reduction; Silver printing; Printing other than silver; Platinotype printing; Carbon printing; and Enlargements. We intend to widen the sphere of this work, and further reference is made in another column.

Another new departure that has given much satisfaction and great pleasure to hundreds of amateur workers throughout the kingdom has been the AMATEUR PHOTOGRAPHER Monthly Photographic Competitions. Every month a competition has been held and prizes awarded. After the prints have been exhibited they have been loaned to provincial and other photographic societies, and are now being lent for exhibition at drawing-room meetings, conversaziones, etc. We hope that during the year 1890 they may afford even more pleasure and instruction than those which have already been received and exhibited.

With regard to the growth of photography and its increasing popularity, we would call attention to the fact

For Contents, Prize Competitions, Notices, etc., see page 16.

that in the columns of the AMATEUR PHOTOGRAPHER more than twenty photographic societies have been started since January 1st, 1889. All of these have increased in "wisdom and stature," and are in much favour with photographers. Early in the year it was determined to link societies together, and for this purpose the PHOTOGRAPHIC SOCIETIES' REPORTER was established. The REPORTER has been a success from the start, and we note that between 500 and 600 reports of societies' meetings have been published. The papers read before the societies are many of them most valuable, and afford the most complete record of the advance of photography. In the first number the "Official Announcement" column contained particulars of officers and meetings from only forty-five societies; the issue for December 31st contains a list of more than 140 societies, and is the most complete extant. The fixtures for January are given in by far the majority of cases, and we trust that the officials of societies will see that by giving such particulars they are not only benefiting their own society, but all workers in photography. Each number has now a portrait of a President of one of the photographic societies. The first given was H.R.H. the Prince of Wales, the next Captain Abney, and afterwards they follow in the alphabetical order of the societies.

We have been very fortunate in the writers secured for the AMATEUR PHOTOGRAPHER, past and present. Our aim is to publish articles which are within the scope and understanding of our readers, and many have assured us that the selection meets with their entire approval. In the correspondence columns almost every subject connected with photography has been touched upon, and several wordy controversies have been carried on; notably, "Naturalistic Photography," and later the "Natural in Photography." "Amateurs' Negatives," and the establishment of a Photographic Institute have had much attention. In fact, no subject is too large or too small to be ventilated in the columns of the AMATEUR PHOTOGRAPHER, and our readers may at all times be certain of a fair hearing. The queries and answers given are of a much higher standard, and the "silly" ones that caused amusement to some of the more advanced workers are gradually disappearing.

The articles that have appeared from the pens of Robinson, Nott, Pringle, Burton, Bothamley, Leaper, Cobb, etc., are all of a useful and practical character. It will be noted further on that our efforts to supply good contributed articles will not be in any way relaxed during the year 1890.

With regard to the illustrations that have appeared, we can only say that we hope still to improve, and later in the year we shall adopt some system which will not only interest and instruct the worker in photography, but which will, we trust, be of interest to the general public.

The exhibition of photographs, whether in public or in private, increases in popularity. In order to induce amateur photographers to exhibit, we have placed the AMATEUR PHOTOGRAPHER medals at the disposal of a large number of exhibition Committees, and may mention the following:—Keighley, Oldham, Belfast, Fine Art Society, Richmond, Midland Counties, York, Glasgow and West of Scotland, Bradford, Derby, Cardiff, Lewes, Wolverhampton, Coventry, Tunbridge Wells, etc. We have found it desirable to make the conditions under which the AMATEUR PHOTOGRAPHER medals are given much more stringent, in

order that the best work, and the best work only, be exhibited. The wholesale awarding of medals, whether the pictures have merit or not, is greatly to be deprecated, and we hope judges will do their work in 1890 much more critically. Nothing is more annoying to really good workers than to find medals of equal value given for very indifferent work.

The Champion Exhibition which was held under the auspices of the Fine Art Society, could not be considered representative of the best work. The blame was more to be attached to the holding back of a certain section of prize winners, than to the promoters of the exhibition, who offered a liberal prize list. All during the year 1888 there was a perfect raving that artists should be included on the bench of judges. This has been done in 1889, to the disappointment of the many and the satisfaction of the few. In connection with our own competitions, we always endeavour to have a well-known artist as one of our judges, and have to express our thanks for services rendered, but it is our aim always to secure the services of gentlemen who themselves practice photography.

We would here add that a photograph cannot be judged on the same points as a painting, or engraving of a painting, and we do hope the time is not far distant when writers will give over calling an exhibition of photographs a "collection of choice steel engravings." We hold that there are possibilities in photography that can never be reached by painting or engraving.

A question of really universal importance, and one which was first brought forward in the AMATEUR PHOTOGRAPHER, is the adoption of the decimal system of weights and measures in photography. The Photographic Club have been at work in the same direction, and we were pleased to find that the fifth edition of "A Treatise on Photography" (Abney) gives all the formulæ in decimal notation.

The London Chamber of Commerce have formed a photographic section, and one of the matters they intend to deal with is the decimal system. Many very capable men have become members of the section, and there is every prospect of good work being done.

The Camera Club now numbers 560 members, and at their Conference many good papers were read. The chief features of the work done by the Club this year has been the holding of "one-man" exhibitions. Five have so far been arranged, namely, the works of Tolley, Sutcliffe, Gale, Robinson, and Rejlander. The Club quarters are still in Bedford Street, Strand, but the fact of the Club going into more commodious quarters is now definitely settled upon. We have, through the courtesy of the Committee, been permitted to send a representative to attend the "Thursday Evenings," and are therefore able to give a short summary of the proceedings. Many of the papers contributed by members are of importance to those who are unable to avail themselves of the benefits of membership. We are therefore exceedingly obliged to the Committee for the permission they have granted us, and take this opportunity of publicly recording our thanks.

The Photographic Convention must ultimately form a very valuable institution, and although we had occasion to question the action of the executive, we can assure them it was with the best intention of advancing the interests of photography. This year the meeting of the members

is to be held at Chester under the able presidency of Mr. C. H. Bothamley, F.I.C., F.C.S., etc. We shall look forward with much pleasure to the programme of proceedings.

Some of the contributions to the Physical Section of the British Association's meeting last year treated of photography, and were well handled by Captain Abney, who occupied the chair.

The literature of the year has not been added to very much. We might mention "The Dictionary of Photography" (Wall). This book has had a large sale, and the re-issue is being pushed on with. "Chemistry of Photography" (Medola) is a most useful work and well up to date. "Naturalistic Photography" (Emerson) has had, we believe, a large sale, although, as far as we know, few can uphold Dr. Emerson in his wholesale condemnation of the works of men who have been looked up to as authorities on art for generations. Had the book been written in temperate language, and the Doctor's views set forth clearly without maligning all and sundry who differ from him, we feel sure it would have been read more carefully and with more profit.

One of the events of the year has been the publication in Japan of a monthly photographic journal, the *Shashim Shimpō*. Professor Burton is on the editing staff, and we have reason to know that the matter contributed is of a very high order. The *Journal of the Photographic Society of India* has been enlarged, and will rank side by side with any journal issued by a photographic society. As we have said at other times, it is ably edited, and must be looked forward to by the members with much pleasure. The most direct advance in illustrated photographic literature is certainly the quarterly volume issued under the title of *Sun Artists*. The first number only has appeared, and it was devoted to the reproduction by photogravure of some of Mr. J. Gale's charming photographs. We reviewed *Sun Artists* at considerable length, and although there were doubtless faults, we can accord a very high meed of praise to the originators. The next number will be devoted to the works of Mr. H. P. Robinson, the letterpress being contributed by Mr. Andrew Pringle. Another departure in photographic literature has been our own child, the PHOTOGRAPHIC QUARTERLY. We are pleased to say that it has received very cordial support, and we shall aim at securing the best writers upon photography and kindred subjects. It is intended to produce a magazine that can be read by the general public as well as the photographer, and from the opinions of the Press that have reached us, we think that we may lay claim to have fairly succeeded. During the current year we hope to be able to illustrate each number by one or more processes, and shall be glad of any suggestions. In regard to other publications, we would note that a second edition of "Picture-making by Photography" (Robinson) has been issued, a new edition of "The Art of Retouching Photographic Negatives" (Johnson), and a most excellent work on "Collotype and Photo-Lithography," by Dr. Julius Schnauss, which was ably translated from the German by Mr. E. C. Middleton. This, we think, exhausts the important works on photography.

Several additions have been made to the list of photographic journals. Upon the retirement from the *Photographic News* of Mr. Thomas Bolas, he issued the *Photographic Review*. Mr. E. J. Wall has also started a monthly under the title of *Photographic Answers*. A rather

amusing leaflet is issued by the Britannia Works Company, called *Photographic Scraps*. It is carefully edited, we believe by their Mr. Howson, a gentleman possessing considerable literary ability. In January another monthly will be issued by Messrs. Percy Lund and Co., called the *Practical Photographer*. It will be seen that there is really quite a plethora of photographic literature. The journals that reach us from the Continent and the United States are very numerous.

From all the publications that come to hand something may be learnt, and with this issue we commence a new departure, and give a note or extract from "Our Contemporaries at Home and Abroad." This will be continued every week. We know that we can claim to be the first photographic journal that has given a review of its contemporaries, and we believe we can claim to be the first class journal that has done it. Of course our notes will only have reference to the original articles and editorial opinions, and as such will necessarily be brief, but it may be taken that we shall be careful to quote that which will interest and be of service to our readers.

Our efforts to be useful to workers in photography will not be relaxed. With regard to "dark-rooms" we may mention that we commenced last season with a list of 141, and closed with 213. We shall this year start the work earlier, and before the holiday season commences hope to have at least 500. We may mention that during last season we had as many as forty applications for introductions on one morning. We believe that many of the more important photographic societies in seaside towns and tourist resorts will permit temporary membership at a small subscription; this is, we know, now permitted at Bath and Southsea.

Societies are setting themselves to work to do practical photography, and we feel sure that our exertions in urging them on will show more fruit next season than it does at present, although we are by no means dissatisfied with the work taken in hand. Photographic surveys are now in course of being carried out by Liverpool, Birmingham, Gloucester, Sheffield, Manchester, etc., etc. All this work will help to establish a photographic record of what has been, is, and is to be in this country.

We have almost exhausted the past, and should like to draw the attention of our readers to the future of this Journal. We have arranged with Major Nott to contribute a series of practical articles under the heading of "Photographic References." He has himself set forth in the introductory article the ground he means to cover, and we are perfectly certain that he will supply us with matter that shall teach the worker in photography, whether a beginner or a veteran. Mr. H. P. Robinson has again been good enough to undertake to write for us, and we think that he has struck out quite a new line in "The Complete Photographer; or, the Modern Recreation of Contemplative Men." Our readers will shortly be able to judge, as the first chapter will be published next week:

During the past year the "Competitive Papers" have formed a feature of this journal, but we have felt that the conditions under which they have been contributed prevented many from entering. We have therefore determined to leave the selection of subject open to competitors, with, of course, the proviso that the contribution must have reference to the practice or art of photography. They may

contribute under three general headings—Apparatus, Art, Chemistry. The contribution must not exceed 1,500 words, or be less than 750. Illustrations may accompany the articles, but they *must* be drawn on separate sheets of paper, and in such a manner as to be easily reproduced. Three prizes will be given for the best three papers contributed under each heading every month, *i.e.*, three prizes each of one guinea, half a guinea, and a certificate. Full particulars will be announced later on. We are sure that many will be pleased to give their experiences. Those contributions which have merit, but which are not up to prize form, will be retained, and from them a selection will be made for publication, with the prize contributions, in the

AMATEUR PHOTOGRAPHER'S ANNUAL,

which will be issued in the late autumn of this year. No regular contributors to photographic journals will be allowed to enter for the "Competitive Papers," as they will still be called. It is our intention to have all the leading processes, etc., written up by specialists for the ANNUAL. In the "Competitive Papers" we seek to gather together the contributors' experiences under the three general headings of Apparatus, Art, and Chemistry.

Many will have noticed that we intend to have set photographic competitions during the year, and only to deal with four classes of work. Entry forms will be prepared, and, as soon as ready, will be advertised.

TRAVELLING STUDENTSHIP.

The conditions of a competition open to all are not quite ready for publication, but we may add, in regard to the prizes, that we have decided to offer the following:—

First Prize	...	...	£30	0	0
Second "	...	...	21	0	0
Third "	...	...	14	0	0

These amounts are practically to cover the cost of a holiday, in the first case extending over one month, the second three weeks, and the third two weeks. We shall require each prize winner to allow us the use of at least twelve negatives taken during his holiday, with full power to publish the photographs in any form we may desire. We shall also suggest tours to the winners. The particulars of the competition for which the prizes will be awarded will be made public as soon as possible. We may add that prints will have to be in our hands not later than the middle of June, in order that the adjudication may be made and the prizes awarded in ample time to fit in with the ordinary holiday recesses.

Three minor prizes will be given, making six in all. We hope prize winners will go in for this competition, which we shall term the "AMATEUR PHOTOGRAPHER Travelling Studentship." The number of prints to be sent in by each competitor will be limited to six, neither more or less.

With regard to the future illustrating of the AMATEUR PHOTOGRAPHER, we shall be glad to receive suggestions. We should add that with so large a circulation as this journal now has, the illustrations are attended by very considerable expense, and it is difficult for us to recoup the large outlay, the only satisfaction being that we please our readers. In order, therefore, to meet their wishes, we would ask for suggestions, and will give them all our very careful consideration.

In looking over these few notes, we feel that many items that should have been mentioned have been omitted,

but we are dealing with an indulgent public who will, we feel sure, look over our many shortcomings. We can assure them it is our earnest wish to help, encourage, and, if possible, teach all workers. In writing, we always feel that there is a bond of union existing between us and ours, and the more we see and hear of each other the more we are sure will the interests of photography prosper. May we therefore be permitted to close this New Year's chat with the following lines, which many of our readers will doubtless remember:—

"Ointment and perfume rejoice the heart of man,
So doth the sweetness of a man's friend by hearty counsel."

* * * *

FROM a letter that has just reached us, we note that it is proposed to form an Amateur Photographic Society at Tottenham. A meeting will be held at 1A, Lansdowne Road, Tottenham, to-day (Friday). Several prominent amateur photographers have signified their intention of being present.

* * * *

THE annual *soiree* of the members of the Oldham Photographic Society will be held on Thursday, the 9th instant.

* * * *

WE have received a communication from Mr. Eden E. Greville, advising us that a photographic society has just been formed at Maidenhead. Mr. Greville has been appointed Hon. Secretary, and will be glad to hear from any gentlemen who may wish to become members.

* * * *

WITH regard to our comments made last week upon the withholding of the AMATEUR PHOTOGRAPHER medal, we may now state that the competition in which the medal was to be awarded as a prize was arranged by the members of the Sunderland Photographic Society. The judge whose conduct we upheld was Dr. Haswell. We were in error in stating that he was an officer of the Society. He is not connected with the Society, even by membership. Dr. Haswell writes us "That there is some amount of dissatisfaction occasioned by his having withheld the medal after the recent competition in Sunderland, and he fears that the editorial in the AMATEUR PHOTOGRAPHER of the 27th ult. will scarcely be enough to clear him of blame in the matter." He says: "There is abroad an impression here that the AMATEUR PHOTOGRAPHER medal was offered simply for the best picture, 'without any reference being made to technique and finish, or to the general value of the exhibitor's work.'"

We have not seen the photographs sent into the competition, but understand that the picture which Dr. Haswell judged to be the best artistically was a drop-shutter view, and that the technique of the competitor's work generally was faulty, and that therefore he did not feel justified in awarding the medal. He appealed to us, and we upheld his decision. A competitor's work must *all* be technically good to entitle him to a prize. In order to encourage the members of the Sunderland society to persevere and contribute good work, we at once offered our Silver and Bronze medals for future competition. It might perhaps be well that the whole of the competitors' work be sent to us for opinion.

A CORRESPONDENT asking our help in getting up *Lancaster Evenings* for Lancashire operatives, thus writes—"A few years ago when, through ill-health, I was dragged down to the very depths of melancholy, a kind friend sent me a copy of the *AMATEUR PHOTOGRAPHER* with an article marked, so that I should notice it. That article was the means of my taking up photography. I shall never regret it; it has caused me to spend a great deal of my spare time pleasantly, which would otherwise have been dull, nay, miserable. Besides, photography has enabled me to obtain lasting memories of dear ones departed. It is with great pride that I gaze on these faces, and I thank the day when I came across your valuable journal. It is with these feelings that I have resolved to start the New Year in trying to help others to forget their troubles; even if it is only an hour or two's entertainment, it will be very acceptable to those who pass their lives in semi-slavery."

* * * *

UPON SOME METHODS OF FINISHING PHOTOGRAPHS.

MOST amateurs who talk glibly of particular methods of development, and expatiate upon the beauties of a perfect negative, are content to stop at this point, and pay little or no attention to the equally important work comprised in the production and finishing of a photographic print. Last week we said something for the benefit of those who delight in seeing their photographs finished with a highly-glazed surface, and although we deprecated their taste, we were bound to admit that the said glaze gives a depth to the shadows which is not often seen in a matt-surface paper. We remember that among some of the last exhibited works by the late lamented Mr. Donkin were some small ones on Aristotype paper. These, we need hardly say, bore the highly-polished appearance common to pictures printed by that method; but at the same time their artistic value did not suffer. Of course, they were views of Alpine peaks, and the delicate shadows in the snow were rendered with marvellous effect. The pictures were small—about 5 by 4, if we remember rightly—and the entire absence of grain which the glazed surface ensured made them equal in beauty to delicate transparencies on glass.

But this is by no means the only manner of obtaining a shiny surface upon a photograph without the use of a burnishing machine. We may get a very good effect by squeegeeing a damp albumenised print to the surface of glass, ebonite, enamelled slate, and other substances, taking the precaution, by the use of French chalk (talc), to prevent the adhesion being of too permanent a character. It is true that most of the glaze so obtained will disappear during the after-process of mounting on card, but this can be avoided if we merely fix the print by its edges to its final support, a precaution which, of itself, leads to permanence.

A method of conferring depth upon the shadows of a photograph by mounting the print in optical contact with glass came into fashion a few years ago, and we remember that certain prints so treated were medalled. We may suppose from this that the artistic qualities of the pictures in question did not very greatly suffer from the manner in which they were mounted. To secure the best effect,

the picture should be printed to a much deeper tint than if it were to be mounted on card, for the optical-contact method makes the paper more or less translucent, and thus robs the picture of some of its force. The method in more common use at this time was to float the paper in a warm solution of gelatine, and to squeegee it upon the surface of a sheet of good glass. A better plan, we think, was to use a solution of starch, which is not so liable to change colour as gelatine. The plan, although it cannot be recommended from an artistic standpoint, has the undoubted merit of permanence. Nearly every case of fading in an albumenised print may be traced to the mountant, or to the card employed as the final resting place of the print. Starch is, perhaps, the most innocent mounting material which can be used, and when it is in contact with glass, and the silver print sealed between the two, it is next to impossible for any deleterious action to be set up. Still, we must remember that glass itself is apt to yellow very quickly with age, and this change would, of course, damage the appearance of the print behind it.

Two examples of this tendency of glass to become yellow recently came under our personal observation. The first was in the case of some embossed globes on a gaselier, one of which had by accident become broken. A new one had to be made, for the pattern had gone out of date. When this new one was placed in position the contrast between it and its carefully-cleaned fellows was remarkable. It was perfectly white, while the other two were quite yellow by comparison. The other example was in glass of better quality, namely, that of the dioptric apparatus in the South Foreland lighthouse. Although the compound lens here employed is kept carefully shielded from daylight by blinds hung round the lantern room, we noticed upon our last visit there that the glass of which it is composed was pale yellow. There is little doubt that originally the very best white glass was employed in the construction of this expensive lens, and we may attribute the change to the action of the powerful electric light, which for the past twenty years has been nightly employed here.

Another method of treating a photographic print, and one which we believe tends to protection of the picture from atmospheric and other deleterious influences, is the use of encaustic paste. Recipes for compounding this are easily found in most books of reference—notably the photographic annuals—and the operation is not unlike that of polishing furniture. That is to say, a little of the waxen compound is rubbed upon the surface of the print, and then lightly polished off with a piece of clean flannel.

One more method we may mention, and one which is not generally practiced or even known. An albumenised picture can, after mounting, be actually French-polished. The method only differs from the manner of French-polishing wood, in that the paper possesses no open grain which has first to be filled in with some foreign body, and further, the operation, instead of being a slow one, can be completed in a very few minutes. The best white polish should be used, and is applied sparingly to a ball of flannel about the size of a large walnut. Over this is stretched a covering of old linen, the outer side of which is lightly smeared with a drop of linseed oil. The surface of the picture is now lightly rubbed with this pad in a circular direction, and presently it will assume a brilliant appearance. We do not advocate this as an artistic treatment, but it will certainly act as a protection to the picture.

Letters to the Editors.

PHOTOGRAPHING AT BOULOGNE.

SIRS,—I have just returned from Boulogne-sur-Mer, and I think it may interest some of your readers to hear a little of its photographic capabilities.

I was there for three weeks, but a week would, if the weather was favourable, be quite enough to exhaust its subjects.

The first day (say Monday) one might confine oneself to the old town and ramparts. The three Portes (Porte des Dunes, Porte de Calais, and Porte Gayole) are well worth taking, and there is a nice view from the top of the ramparts looking towards Notre Dame.

The next day one could take the old clock tower from off the ramparts, from over the Porte des Dunes; and the Rue de Calais makes a nice photograph from the Porte de Calais.

Wednesday, one might take La Colonne, which is about one mile from the town. The docks afford endless views of shipping, and the fishwives themselves are worth taking.

Of course, there are many more things to photograph besides those I have mentioned; but I fancy I have said enough to show that a week's holiday may be very pleasantly spent at Boulogne. I stayed at the Hotel du Nord, and was extremely comfortable.

Apologising for the length of my letter, I remain, yours truly,
December 26th, 1889. GERALD STRICKLAND.

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PYRO POTASH DEVELOPER.

SIRS,—For the assistance the AMATEUR PHOTOGRAPHER has been and is to me, allow me to thank you, and to say that without it I had no means of finding my way out of the many quagmires an amateur photographer may get into.

Whilst writing, I should further like to say that I think it such a pity our big guns do not advocate the use of the pyro-potash developer in place of the ammonia, as the potash is so much safer in the hands of a novice. With Eder's pyro-potash developer and a bottle of bromide, I find almost any exposure can be given, especially if the operator is not chary of his time in bringing out the picture. I was very much struck with the remarks of the Rev. W. Aston in the PHOTOGRAPHIC QUARTERLY, and his comparison of the three developing factors, or rather the accelerating agents.

HYDROQUINONE.

The formula of one solution given by a correspondent from Rio Janeiro, I find works very well, and is completely under control. If anything, it is a trifle long in getting out the picture.

CHEAP PLATES.

Perhaps some of your correspondents can give me some reason why plate manufacturers should so much vary in price. Some half-plates I have been using for some time cost me 13s. per gross, whilst I cannot get the generality of other makes for less than 2s. 3d. per dozen, and yet I can get quite as good results with the cheaper plate, and even if a plate is lost now and again the cost is not much of a consideration.

Trusting these few remarks may be useful to others who may be like myself, I remain, yours truly,

A COUNTRY COUSIN.

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WILSON'S CHRONOGRAPH.

SIRS,—In your issue of Dec. 20th, I observe an account of a meeting of the Camera Club, in which your reporter relates, evidently with great gusto, the way in which Mr. Sturmev was "sat upon" by Mr. Lionel Clark for presuming to think that he had been able to measure the speed of shutters with anything like accuracy by means of Wilson's chronograph.

I am not concerned for Mr. Sturmev, who is, no doubt, able to defend himself; but I cannot help thinking that it would have been better if Mr. Clark had taken the trouble to understand the instrument before so triumphantly condemning it; and perhaps your reporter would not have been quite so jubilant had he also known more about the question.

As a matter of fact, neither the variability or uncertainty of the light, nor the sensitiveness of the plates used, makes the slightest difference, provided only that the light be powerful enough to produce an impression on the plate in the smallest

time it is desired to note. A very small quantity of magnesium mixture (*not* "flash" light) is sufficient to ensure this minimum of light, and beyond it no excess or variation (short, of course, of reversal of image) can interfere in the smallest degree with accuracy of result. So much for "the knife"!

As regards the motor employed, everything *does* depend upon that, and just in proportion to the regularity and correct time reading of the motor is the exactitude of the determination.

I should not use a gas engine if a Foucault's clockwork motor, a water motor, or a *suitable* steam-engine were available, but I have yet to learn that "if there is one thing on the face of the earth irregular and uncertain, it is an Otto gas engine." On the contrary, I have never yet met any engineer who did not consider the Otto as the most perfect member of the tribe, and some ten years' experience with several gas engines confirms me in that opinion.

I don't say it is equal in regularity to a good steam engine, but the fact that it is desirable to add to the weight of the fly-wheel when used for electric light proves nothing. I have before me a catalogue of one of the first makers of steam-engines in the kingdom, and to every engine is attached the note, "For electric lighting the fly-wheel can be enlarged at an extra charge."

The regularity, or otherwise, of the Otto has nothing to do with the correctness of the principle of Wilson's chronograph, but if it be borne in mind that only a few minutes are required for any one experiment, and that the rate of motion can be and should be counted immediately before and after each determination, it is difficult to see where any appreciable error can come in: it is possible that even "dulcet tones" may be liable to a greater amount of inaccuracy.—I am, sirs, faithfully yours,

Dec. 23rd, 1889.

WILLIAM J. WILSON.

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HINTS ON ARISTOTYPE PRINTING.

SIRS,—Some of your readers who employ Aristotype may be continually disappointed at finding that beautiful purple tones produced by certain baths, are replaced during fixing by an unpleasant reddish colour.

I think that if they try the following plan, they will usually obtain good black or very respectable dark brown tones, even if purple colours are lost.

After toning to purple colour, keep the prints for say five or ten minutes in a weak solution of hypo, plus a sufficient amount of gold. Afterwards keep them for the ordinary time in a solution of unmixd hypo of the ordinary strength.—Yours, etc.,

December 26th, 1889.

G. M. S.

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PHOTOGRAPHERS' BENEVOLENT ASSOCIATION.

SIRS,—The Photographers' Benevolent Association is now so well and favourably known to most of your readers, that I feel emboldened to ask space for this short communication.

The Association has, after a long struggle with the apathy of those whom it wished to benefit, at last become the recognised charitable centre of the profession. Its objects are already widely known, and during the sixteen years of its existence there has not been a single charge against the Committee of unfairness or injustice in their awards. This, the Committee freely acknowledge, is in a great measure due to the careful investigation which each case has received at the hands of the Secretary, Mr. H. Harland. Owing to the pressure of other business, this gentleman is compelled to resign his position in February next, and the Committee have, in consequence, to seek for a successor to him. This affords a favourable opportunity to replace a paid secretary by an honorary one, provided that a gentleman, either amateur or professional, can be found able and willing to devote a small portion of his time to the duties. It has been several times pointed out that the Secretary's salary, small though it is, forms a serious item in the yearly balance-sheet, and it is with the hope of being able to still further benefit their poorer brethren, that the Committee now appeal to the photographic community for a volunteer in this capacity. It may be mentioned that the duties are simple, and can easily be performed by any one who has had any business experience.

The Chairman of Committee, Mr. W. Bedford, 326, Camden Road, N., will be pleased to furnish further particulars, list of Committee, etc.—I am, sir, yours faithfully,

(Pro Committee, P.B.A.),

December 30th, 1889.

E. CLIFTON.

Chemistry for Photographers.

By C. H. BOTHAMLEY, F.I.C., F.C.S.

(The Yorkshire College, Victoria University).

GENERAL MANIPULATIONS.

(Continued from page 413, vol. v.)

FILTRATION is sometimes a very tedious operation, especially if the substances to be filtered are gelatinous in character, and it is therefore desirable to accelerate the process. This is done by reducing the pressure below the filter, when the pressure of the atmosphere, acting upon the surface of the liquid in the filter, drives it more quickly through the pores of the filtering material. In many cases the simple plan shown in fig. 2 answers quite well. A glass tube of the same diameter as the stem of the funnel is bent in a loop in the manner shown, and is attached to the stem of the funnel by means of an india-rubber tube. If the filter-paper is made to fit the funnel properly, the long tube below the bend becomes filled with liquid, and the weight of this column of filtrate pulls the liquid through the filter. It should be observed that the efficiency of the apparatus depends on the length of the tube below the bend; the distance between the funnel and the bend may be as short as convenient. The tube should not be so wide that bubbles of air can pass up from the bottom.



FIG. 2.

When greater assistance is required, one of the so-called "water pumps" must be used, but the arrangement of apparatus necessary in this case will be described later on.

Working Glass.—It is necessary to acquire at once the art of cutting glass tubes and rods, bending them to any required shape, and drawing them out into jets and points; but other operations, such as blowing bulbs, joining wide tubes to narrow tubes, and making three-way tubes, though often of the greatest service, are not indispensable.

Narrow tubes and rods are cut with the aid of a triangular file. Do not saw the file backwards and forwards, but with steady pressure and one firm stroke make a sharp cut at the point where the tube is to be severed; now hold the tube with one hand on each side of the cut, and, with the thumbs pressing on the tube close to the cut, snap the tube across. As a rule it will break with perfectly clean edges, but if the tube is somewhat wide, it is advisable to protect the hands against possible injury by means of a cloth. Wide tubes do not break easily in this way, and must be treated differently. Make a fairly deep cut in the manner just described, and then carefully carry the cut round the tube, leaving it deepest, however, at the point where it began. Now heat a very narrow piece of rod or tube in the flame of a Bunsen burner until the end of it is at a bright red heat, and press the red-hot glass on the cut at its deepest part. If the glass is of good quality and the cut has been properly made, the tube will divide with clean edges.

Bending tubes requires only a steady hand, care and patience, and a little practice. Success depends in the first place on having a sufficient length of the tube uniformly softened, this length being greater, the greater the diameter of the tube. Above all, avoid hurry. Any attempt to bend the tube before it is properly softened is fatal. *Good bends cannot be made in a Bunsen flame*, because the flame is too narrow to heat a sufficient length of tube.

Moreover, it is hollow, with the exception of the upper part, and hence the tube becomes heated only at the two points where it cuts the edges of the flame, and the result is not a bend but a kink, as shown in A, fig. 3. A luminous gas burner of the ordinary tulip pattern should be used. They can be obtained mounted on stands somewhat like a Bunsen burner, but if the ordinary gas bracket is not too high, it does almost as well. Tubes a quarter of an inch in external diameter will require a No. 4 or No. 5 burner at its full height; for narrow tubes the flame should be lowered according to their diameter. The lower dark part of the flame is hollow, and the tube must be held in the luminous part of the flame (fig 4.) The position of the bend being decided

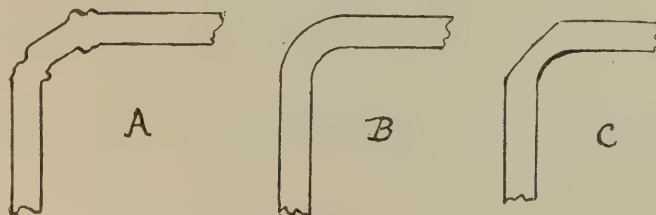


FIG. 3.

on, the tube is supported between the thumbs and fore-fingers at points equi-distant from the bend and the ends of the tube. The hands are underneath the tube, and the latter rests on the edges of the tips of the middle fingers, and is gripped by the tips of the thumbs and fore-fingers. Glass flies to pieces if too rapidly heated or cooled, and in order to heat the tube gradually it is at first moved in and out of the flame, the duration of its stay in the flame being slightly increased each time until it is kept in the flame. In order to heat the tube uniformly, it is slowly rotated by means of the thumbs and fore-fingers, it resting all the time on the tips of the middle fingers. Great care must be taken to rotate both ends of the tube at the same rate, otherwise it will

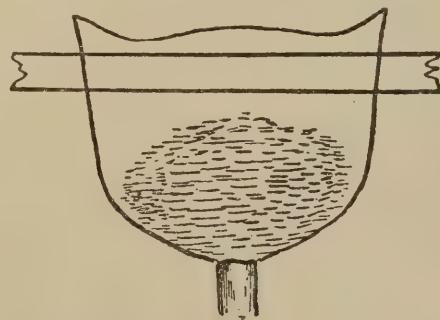


FIG. 4.

twist as soon as it becomes soft. As the tube gets soft, great care and steady hands are needed to keep it in its original position and rotate it properly; any pulling or twisting will spoil it. When the part of the tube in the flame is thoroughly softened, *but not before*, stop rotating the tube, take it out of the flame, and *slowly* bend it to the required angle. If the operation is successful, you will have a circular bend like B, fig. 3. If the tube is bent before it is soft, the bend will be flattened and the tube constricted—(C, fig. 3)—and the same result may be produced if the tube is unevenly heated or if it is bent too quickly. Hold the tube carefully in the hands until it becomes hard again, and then put it down in such a way that it is supported at the ends and the hot part does not come into contact with

anything. When cold, remove the soot from the bend with a duster or a piece of soft paper.

The ends of glass tubes have always sharp edges, which are not only dangerous to the hands and fingers, but also prevent the passage of the tube through a hole in a cork, etc. To remove this difficulty the ends of the tube are gradually heated in the upper part of a Bunsen flame until the edges just become red-hot. When the tube is cold again it will be found that the edges have fused and are now nicely rounded. If the tube is heated in the flame too long, the edges fall together and close it up.

Drawing tubes out is an operation required for the production of capillary tubes or of jets. Narrow tubes can be

worked in a Bunsen flame; large tubes require a blow-pipe flame. The tube is carefully introduced into the upper part of the flame (fig. 5) and rotated, and when the part in the flame becomes soft, the ends of the tube are *very slightly and very gently* pushed towards each other, the heating being continued. Under these conditions the tube "thickens up" (fig. 6, A), and if when it is quite soft it is removed from the flame and slowly pulled, it becomes narrowed in the manner shown in fig. 6, B, and by cutting with a file at any desired point, a jet is obtained with a diameter depending on the original diameter of the tube and the way in which it has been pulled. By working in this manner the glass is as thick at the end of the jet as at any other part of the tube, whereas if it were pulled as soon as it was soft, without

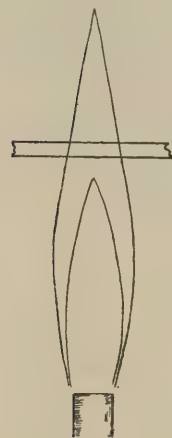


Fig. 5.

a preliminary thickening up, the glass at the tip would be very thin and liable to fracture (fig. 6, C).

Capillary tubes are made in the same way, except that the tube is pulled out more quickly (though still slowly) to a length of two, three, or four feet, as the case may require (fig. 6, D.)

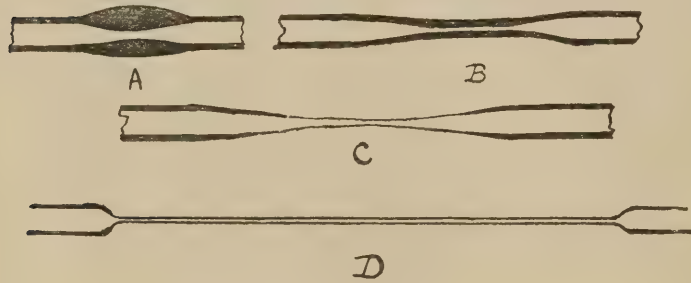


Fig. 6.

Glass rods are indispensable for stirring liquids, transferring liquids from one vessel to another, etc. They are made by cutting glass rod of about an eighth of an inch in diameter into suitable lengths by means of a file, and then rounding the edges by holding the ends in the Bunsen flame until they just melt. It is not advisable to flatten the ends into knobs, nor to draw them out into points.

Boring holes through corks, in order to pass tubes through them, is done either with round (so-called "rat-tail") files or with cork borers. India-rubber corks can only be perforated by cork borers. The latter are brass tubes of different diameters with the lower ends sharpened, whilst in the upper part is a hole through which passes a cross-piece of stout wire, which forms a kind of handle and also serves to push the pieces of cork out of the borer. The borer is drilled through the cork with a rotatory motion; it

cannot be pushed through. Care and some practice are needed to make the hole go straight through the cork, and when two or three holes have to be made through the same cork, the difficulty is, of course, increased, for all the holes must be parallel. It is often a good plan to drill the hole half way from one end, and then withdraw the borer and start from the corresponding point at the other end, and drill in the other direction until the hole is complete. Ordinary wooden corks are bored with a dry borer, but for india-rubber corks the borer must be kept moistened with alcohol or turpentine.

A round file may be used for wooden corks, though not with india-rubber. They have somewhat fine points with which the hole can be started, and it is finished by combined drilling and pushing. Take care to keep the file straight, or the fine point will snap off.

After wooden corks have been bored with a file or borer, the hole may be enlarged by working the file backwards and forwards, turning both it and the cork round in opposite directions in order to keep the hole cylindrical. It is very easy to put the hole out of shape unless attention is paid to this point. India-rubber corks cannot be treated in this way; the hole must be made of the right size at first.

Fitting corks to flasks and other apparatus requires careful attention, for if there is any leak there will be a waste of gaseous products, and the experiment may fail. India-rubber corks are usually quite round, and give little trouble, but wooden corks are frequently irregular in shape, and do not fit tightly into a round aperture. So-called "best selected" corks should be used, and should be free from channels and cavities. Select a cork which is somewhat too large for the particular flask or tube, wrap it in soft paper, and soften it by rolling it under the foot. This is much better than using a cork squeezer. The cork will soon be almost perfectly round and very much softer, and will probably fit the aperture perfectly. As soon as the required holes have been bored in it the cork should be fitted into the aperture, and not taken out for some time, otherwise it may return to its original shape and size, and it cannot safely be softened again after it has been bored.

(To be continued.)



MESSRS. VALENTINE AND SONS, of Dundee, have secured a piece of ground at Downfield for the erection of photographic printing works. The new works will afford employment for a large number of young women, and are chiefly intended to meet the demands of Messrs. Valentine's foreign business.

THE AMERICAN ANNUAL OF PHOTOGRAPHY for 1890 is a splendid specimen of an annual, clearly printed, well illustrated, and containing much valuable information. All the illustrations are reproductions of photographs, the most striking being a portrait of Mr. Edison, in half-tone; "A Merry Tale," in the Lichtdruck process; "Southern Fruit," a most successful half-tone engraving of an orthochromatic study; "Minnehaha Falls in Winter," by the Levytype process; "In Central Park," a clever reproduction in line and stipple of a photograph of the elephants in the Central Park, New York; "Babyhood," a pretty little photogravure; and "Off Duty," a successful instantaneous picture of a Great Dane jumping off the ground in an erect position. Perhaps the most curious of the photographs is one of bats hanging on the walls of Howe's Cave, Schobani County, N.Y., taken by the flash light with perfect success. Amongst the numerous articles, we notice one on "The Platinum Toning of Aristotype Prints," by Mr. A. Stieglitz; "A Reminiscence of Development," by Mr. Pringle; Mr. Traill Taylor on "The Unrecognised Possibilities of Celluloid Films;" Dr. John Nicol on "Eikonogen;" Mr. A. R. Dresser on "Hints to Beginners;" Mr. Jerome Harrison on "How to See Photographically;" Mr. F. E. Ives on "Orthochromatic Photography;" and Mr. Nureller on "Copying Old Prints." The review of the year is concise but effective, and the book generally is deserving of all praise.

Winter Work.—XIII.

By T. C. HEPWORTH, F.C.S.

WATER LENSES AND SCREENS.

(Continued from page 432, vol. x.)

ALTHOUGH I am not in a position to say whether or not water lenses have been employed for photographic purposes, it is certain that they have been used in other branches of science. In the year 1872 Dr. R. M. Fergusson brought before one of the Scottish scientific societies a simple apparatus which he had designed for exhibiting wave motion, the principal part of which comprised a hollow lens filled with liquid. This apparatus was described and figured in the *Quarterly Journal of Science* for April of the same year, and I have thought it worth while to reproduce the drawing, so that those interested in the matter may be able to see what has already been done (fig. 1). It will be noticed that Dr. Fergusson's apparatus is supported by an ordinary chemical retort-stand, a contrivance which ought to be possessed by every photographer, so useful is it in all sorts of operations that come within his ken. In the present case the stand is furnished with five attachments, which are clamped to the main stem in the usual way, and which it will be convenient to letter from the bottom upwards, A, B, C, D, and E. A is a mirror which turns the luminous ray from the light source—in this case a lime jet—from the horizontal to the vertical position, so that it may traverse and be condensed by the liquid lens B. This lens, we learn, was made by cutting the top from a well-formed glass shade, and measured eight inches in diameter. Its actual diameter liquid, which was found to be six inches. I fancy that glasses like enlarged watch glasses, and which are made to cover clock faces, would be the better article to get for this purpose. In the case before us the containing vessel is actually deeper than would be required for most purposes,

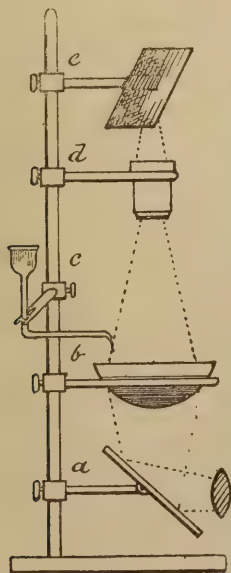


FIG. 1.

for here the liquid had to be disturbed in order to induce wave motion. This was brought about by means of the bent thistle-headed tube C, which, by means of a tap and finely pointed exit tube, could be made to emit drops slowly or quickly. The liquid employed was spirit, on account of its

greater limpidity, but water would be used for ordinary optical work. Next above this liquid lens is an ordinary lantern objective or photographic lens, and above this again we have another sloping mirror to once more turn the vertical ray to the horizontal direction, so that the image formed by the objective lens may be projected upon a screen.

A still more simple arrangement, under the title of "water lantern," is described in Mayer's little book on the phenomena of sound. Of this I give a sectional drawing in fig. 2, from

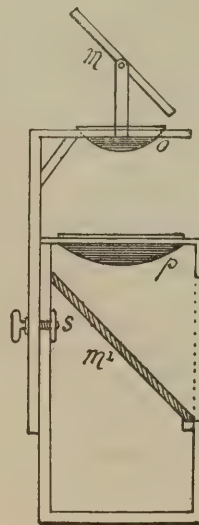


FIG. 2.

which it will be seen that the apparatus takes the form of a box on end, but open at one side for the introduction of the light rays, from whatever source they may be obtained. These rays are received by the sloping mirror M', and are reflected by it towards the condensing water lens P. Upon the surface of the water may be laid a plate of thin glass, which will serve both as a defence against dust, and also as a convenient transparent table upon which slides and other objects for projection can be laid. Above this there is a smaller water lens to act as an objective, which is held in a moveable shelf, the height of which can be carefully adjusted by the screw nut S. To crown all, there is a second mirror M, swung like a toilet glass between two uprights, whose duty it is to bring the light rays once more to the horizontal position for projection upon a screen.

It is evident that in both these devices much light must be lost by reflection. This might be obviated in fig. 2 by dispensing with the lower mirror, and putting in its place a lime-jet in such a position that the luminous side of the lime would be presented towards the lens. There would be no great difficulty in this, for a lime-jet will burn well in any position in which it may be held. The heat from it rising upwards, would tend to cover the lens with moisture, but this could be obviated in the description of lens under consideration by filling it with warm water instead of with cold.

The glass cover to the lens at once suggests the construction of one which shall remain permanently closed, and which shall be available in the horizontal or vertical position. The construction of a compound condenser, consisting of two plano-convex lenses of large size, should not present any insuperable difficulties. In constructing one element of such a condenser the first thing would be to obtain a concave glass, and a flat glass of exactly the same size. These should be ground with emery and water for half an inch on both sides round their edges. The next thing

would be to procure a metal annular frame of this section 1, and to carefully putty them in with a mixture of white and red lead in oil, leaving a small hole in one of the glasses, at the extreme edge, through which the lens could be filled with water after the cement had hardened. It must be remembered that unless such a lens were quite full of liquid it could not be used in the horizontal position, for any air bubble that remained would naturally find its way to the highest point, and would make its presence evident upon the screen. A word as to the best form of screen to employ in this work of projection will not be out of place.

In cases where the lantern is being constantly used, whether for trying slides in the amateur's workroom or for demonstration in lecture theatres and schools, it is of importance that a suitable screen or sheet should be available at a moment's notice. This should be made of opaque material, for it must be remembered that all light which filters through such a screen is lost, and the pictures suffer proportionately. A whitewashed wall makes the finest lantern screen—and this is provided in some few lecture theatres—the unsightly patch of whiteness being hidden, when not in use, by curtains. But a portable screen which is quite as effective has recently been put on the market by Messrs. Mason and Payne, the map publishers, of Cornhill. This is made of strong cloth, faced on each side with paper, so that it may be quite opaque to the rays from the lantern. The cloth is stretched, shrunk, and mounted with its paper facing, by experienced hands, so that the surface is as flat as a whitewashed wall, and far whiter, for the pigment which is subsequently applied to its front surface so as to give it a finish, is the finest oxide of zinc, a material which does not, like flake-white, darken with time. These screens are fitted with roller and lath, so that when not in use they are rolled up out of sight like a window blind. They are made in all sizes, the largest ever made being perhaps that which was used for my photographic lectures in the theatre at the Crystal Palace. This measured thirty feet square, and contained, therefore, 100 square yards of material. About forty pounds of zinc oxide was used to give it its snowy coat of white, and the pictures projected upon it were consequently of extreme brightness.

(To be continued.)

KIDDERMINSTER PHOTOGRAPHIC EXHIBITION.—The Secretary writes that the entrance fee for each class is two shillings, which covers any number of frames, and that the time for application for space is extended to February 1st.

THE "NORSE" VIGNETTER (Marion and Co.) is an ingenious little arrangement for securing openings of various shapes and sizes in a few seconds, and as there is an arrangement by which the mask can be placed closer or further away from the negative, the vignetter promises to be most useful and economic.

IN PARIS they are somewhat ahead of us in the matter of comfort in portraiture, for there a note brings the photographer to your own house. Photographs taken this way are more interesting to the recipients, and the posing, in freedom from the head-rest, is simply concentrated comfort as compared to the old style. English photographers are, however, coming round, and a number of them announce that they will photograph their customers at their own homes. May their number increase.

BRIXTON AND CLAPHAM CAMERA CLUB.—The members of this Club are going to hold an exhibition of members' work on the 20th and 21st instant, and they offer a silver and five bronze medals themselves, and also an AMATEUR PHOTOGRAPHER bronze medal. There are to be six classes: Landscape and marine; architecture, including interiors; instantaneous work (moving objects); portraiture; enlargements; lantern slides and transparencies. All entries must be made by the 3rd instant. We hear that Mr. A. R. Dresser has accepted the Presidency of the Club.

Hambling Papers.—VII.

By W. K. BURTON.

LENSES FOR INSTANTANEOUS AND DETECTIVE WORK.

(Continued from page 415, vol. x.)

THE greatest difficulty that I have found, in a very moderate experience of the photographing of ships in motion, on fairly large plates (12 by 10) has not been so much to get the boat centred on the plate. That is easy enough with any one of a host of finders, or with no finder at all, by simply taking aim along any square corner of the woodwork of the camera that is parallel with the axis of the lens, the small distance between the edge and the centre of the camera not being of importance. The difficulty is to get the boat any particular size that one wants. Let us suppose the subject is a yacht, and that the photographer wishes to get a half "side-on" view, he being either situated on another yacht, or, to take the easiest possible case, he being on the end of a pier past which the yacht is manoeuvred for his special benefit. It will not be found at all difficult to keep the camera "pointed at" the yacht, the difficulty will be to know when to "shoot" at it, and unless his experience is very different from mine, the photographer who first tries this kind of work will be very surprised at the smallness of the image he gets on development. He has probably made up his mind that he wants the image of the yacht to cover at least half the height of the plate. He has waited till he judges that it is so near that the image is bound to be of about the size to do so; but, lo! on developing the plate, he gets out a little dot of a thing, perhaps a fifth or a sixth of the size he wanted, on a great expanse of water! Of course, matters are very much mended by the use of a finder that shows the same image exactly that the actual lens is producing—or at least the same amount of picture on a smaller scale—and there are many such; but it is wonderful how difficult it is even with such to set off the shutter at exactly the right moment. I imagine the same case as before, and assume the photographer to be watching the image through the finder. He is surprised to see how little of the field the yacht occupies, and how alarmingly near it has to come before it occupies enough of it to make a picture, and how suddenly, after this, it occupies *more* than the field, or runs out of it altogether. There is, in fact, only about a second of time during which the object is just at the distance to make a fairly sized picture, and it needs considerable quickness of sight and readiness of hand both to follow the motion of the boat and to let off the shutter when she is just at the right distance.

Of course, the longer the focus of the lens, the larger the image on the ground glass, or, in other words, the greater the distance from which it is possible to photograph a boat, and get a fairly large sized image. One who has not actually tried will be astonished, even with any focal length feasible, how apparently very near a boat has to come before it gives other than an exceedingly small image. Increase in focal length means increase in size of the image. It also means increased difficulty in "aiming" the camera, as a given angular deflection amounts to a greater linear motion of the image on the ground-glass or the plate. This, however, by no means counterbalances the advantages of the greater size of image, and it may be said that the lens for yacht photography should have a focus at least half as long again as the plate, and that it will be an advantage if it is twice as long.

Even with all the aids there are to be used to assist in yacht photography, there will certainly be a very large percentage of failures. I have done a fair number of yacht

photographs on 12 by 10 plates that were at least good enough to be highly pleasing to the owners of the boats, but I have, on the other hand, spent a whole forenoon, with all the conditions favourable, with my camera balanced on an anchored floating raft, and with three or four yachts manœuvred for my own particular benefit, and have found, on development, that I had not got a single picture that could be called a success; that is to say, there was not a single picture that was just what I had intended that it should be. Either the images were too small or too large, or they were too far to one side or the other of the plate, or again, in some cases, the boat was only sailing into, or was sailing out of, the plate!

I imagine that even if the photographers who have produced the best yacht pictures were to tell all, they would confess to a very large number of failures—probably to more failures than successes.

So as the focus be long enough, the form of lens used for this kind of photography is not a thing of much consequence. Good work may be done with any good lens, and as a very large aperture is by no means necessary, a single lens, even if not of one of the most modern "rapid" forms, may be used, and, as has very often been pointed out, in all cases in which a single lens is really permissible, it is to be somewhat preferred to others.

So much has lately been written about detective cameras, that there is little more to say; in fact, there is perhaps nothing—and the little that I intend to put down here has probably all been said already.

The conditions to be fulfilled by a lens for a detective camera are, in general, the same as those for other kinds of instantaneous photography, for the detective camera scarcely needs to be considered apart from instantaneous work, but there is this difference, that, in so far as a photographer takes up work with a detective camera, he must be considered a "one-lens man." Of course, I am well aware that detective cameras have been made to be worked with several lenses, that could be applied for different kinds of work, but the very essence of detective work, it seems to me, is to be ready for *any* kind of subject at a moment's notice, and it need not be explained that this limits the user of the detective camera, *at least as a detective camera*, to one lens. This lens should, therefore, so far as possible, fulfil the conditions for all kinds of instantaneous work.

I have, above, taken two kinds of instantaneous work—namely, street views, and the photographing of yachts—as typical of the two opposite ends of the work likely to be undertaken by the amateur. It will be seen that, for one of them, a large maximum aperture is desirable, for both a comparatively long focus; and I think that the requirements of a lens for detective work may be summed up by saying that it should possess both these qualities: that is to say, that it be of long focus, and should be capable of working at a *very* large aperture if necessary. It should also be supplied with stops so that the aperture may be reduced when the largest size is not needed. A lens that I consider would be excellent for detective work is the very rapid "Aplanat" of 8-inch focus made by Suter. It works at an aperture of No. 2 U. S., which is twice that of the ordinary rapid rectilinear.

I know that there are some who will consider a focal length of 8 inches too great for a quarter-plate, or even for a 5 by 4. There are certainly several reasons against the use of a long focus for detective cameras. One of these is that the longer the focus the greater the likelihood to miss the object, and that, moreover, the longer the focus the greater the blurring, due to motion either of the camera or of the object during exposure; but I think that the pictures got by using a long-focus lens are so very much

superior to those got by the use of a short-focus that the trouble just mentioned is more than compensated for. I am in no way a great believer in detective work. I believe that nine out of ten of the photographs taken by the generality of detective-camera workers are so bad that they are never shown, and I think that of those that are shown, it were better that nine out of ten were kept from the light of day, but of those that I have seen every one of the pictures done by the detective camera, that could be considered really good, were done with lenses of comparatively long focus.

(To be continued.)

Photographic References.

BY MAJOR J. FORTUNÉ NOTT.

APPARATUS.

THE CAMERA.—Photographers of the present day have a very varied assortment from which to make a selection when purchasing this essential piece of apparatus for the practice of their art. The instrument now is too well known to render any lengthy description of it at all necessary, but inasmuch as the long list of firms in England and America who manufacture cameras is constantly being augmented, and as each one has some patented devices, which are advertised as "improvements," it behoves a would-be purchaser to fully understand the requirements of a camera, in order to be certain of selecting a suitable article. *Experientia docet*, but the beginner, in making a start, must either rely upon the advice he is given by friends who possess some practical knowledge of photography, or upon the instructions he receives from text-books, otherwise he may find himself making a lavish expenditure upon a very ornamental but perhaps nearly useless article. To guard against such a contingency, he should learn to recognise whether a camera possesses all the adjuncts required to make it serviceable, and which should therefore be considered as indispensable, also to be able to readily discern between those features of the various makes that are absolutely necessary, those that cannot be so described but may occasionally be useful, and those that can only be classified as cumbersome fads having no practical advantages to anyone but the manufacturer who charges for them.

It should be borne in mind that a camera is simply the means to an end, and its utility is in no way enhanced by elaborate ornamentation, complicated adjustments, or superabundance of brass work. These things can in no way improve the pictures for whose creation the apparatus is intended. This is so obvious that it may at first seem unnecessary to assert it, but it is as well the fact should be emphasized, for so many patterns of cameras are now advertised in which the makers apparently must rely solely upon their handsome appearance effecting their sale, for they have very few other distinguishing merits which would warrant the exorbitant prices asked being paid for them.

The absolutely essential qualification for any camera is that in all its parts it should exclude light when the lens is capped. A thorough testing in bright sunlight is the only sure way of finding out its capabilities in this matter.

When set up, a tourists' or bellows-bodied folding camera should be as nearly rigid as it is possible to make a piece of apparatus that is not absolutely solid. To discover its merits in this direction, fasten it on a stand, put the lens and shutter on the front and a loaded double-back in the groove, then after racking the camera out to its fullest capacity, give it a slight tap and watch

the effect. If it is not well adjusted and correctly balanced, any movement or jar produces a vibration that dies very slowly out before it is again at rest. A camera with this defect should be avoided, for obvious reasons.

A camera that possesses the power of being extended to double the focal length of the longest focus doublet lens intended to be used with it, adds considerably to its value, because it permits of a single combination being employed when necessary. It should also close up so that a wide-angle lens of short focus can be used without any portion of the base-board appearing in the angle of vision. Whatever form of bellows it has, under no circumstances should any of the folds cut off rays between the lens and the plate. Many otherwise nearly perfect cameras have this objectionable fault.

An easy method of assuring the front and back being kept perfectly parallel should exist. It should fold up compactly, be easily and quickly adjusted for use, and be free from complicated or superfluous mechanisms which have a tendency to get out of order, for any utility under exceptional circumstances they may have does not compensate for the annoyance they are liable to cause. In a camera intended for tourist purposes lightness and portability are very essential. To gain these desirable qualities, it is worth while sacrificing a number of other conveniences if necessary, for when they would be required a little ingenuity can always suggest some other method of overcoming the difficulties, whereas lightness enables a camera of a good size to be carried about without fatigue, and consequently makes it an exceptionally serviceable article. A whole-plate camera with the necessary kit is the largest size that can be conveniently carried for a distance with pleasure. This remark, however, must be qualified by the statement that it only refers to three or four makes in which the extreme point of lightness has been attained without any very great sacrifice of rigidity being made.

Cameras can, of course, be ordered to any size desired. The standard makes are determined by the largest plate for which they are intended. In England the sizes run as follows:—

Lantern size being $3\frac{1}{4}$ ins. square; quarter-plate, $4\frac{1}{4}$ by $3\frac{1}{4}$ ins.; the next size being 5 by 4 ins.; half-plate $6\frac{1}{2}$ by $4\frac{1}{2}$; then one 7 by 5 ins.; whole-plate, $6\frac{1}{2}$ by $8\frac{1}{2}$; the largest sizes being 8 by 10 ins., 10 by 12 ins., and 15 by 12 ins., this last being the dimensions of the largest sensitive dry-plate dealers keep in stock.

The front is the part to which the lens is attached, and it should possess the means of being raised or lowered as required.

The focussing screen is the ground-glass secured in a frame at the back of the camera, in such a way that, when removed, the sensitive plate can be placed in exactly the same position. This back frame must be detachable, and so made that it can be replaced in a reversed position, a feature which allows the picture to be taken vertically or

horizontally. This is accomplished by making the back frame of the camera square, and although this shape may add to the weight and bulk, these drawbacks receive compensation by the fact that without such a convenience the whole camera would have to be unscrewed and reversed to accomplish the object which this simple contrivance instantly fulfils.

The back of the camera ought to be made so that it can be moved vertically or horizontally, and the point from which it is swung should, in a correctly made camera, be from the centre, the movement in the one direction being similar to that of an ordinary toilet mirror. In very few makes of English cameras, however, is the alteration of position made in this way, and the trouble caused by this fact has to be overcome in another manner, to which it is intended attention shall be drawn under a different heading. Under ordinary circumstances the screen should always be at right angles with the axis of the lens, but occasionally the movements already referred to enable a certain desired definition to be obtained, which except by their use could not otherwise be procured. It is very desirable, therefore, to fully understand the effects resulting from their employment, but under no circumstances should this method of focussing be resorted to if it can be avoided, for any of these movements tend more or less to produce distortion.

The focussing screen itself should be examined, for if any but the very finest ground-glass has been used, the coarse grain will prevent delicate objects being seen with anything like the clear definition to be obtained when the superior grade of glass is employed for this purpose.

(To be continued.)

THE London Social Camera Club will hold their annual conversation in March.

THE Devon and Cornwall Camera Club are constructing a dark-room and photographic studio.

HINTO-KINONE is a one-solution developer, which simply requires the addition of pure water to be ready for use, and it is claimed for it that it can be used for negatives, lantern slides, and bromide and gelatine papers. Like all hydroquinone developers, it does not stain the fingers.

THE Sheffield Photographic and Fine Art Company have forwarded us a neat form of changing bag, by means of which plates can easily be transferred from box to dark slide, or *vice versa*, in the open air, without danger of light access. To the tourist such a contrivance is almost a necessity.

A WELL-KNOWN WORKER IN PHOTOGRAPHY.—Dr. Haswell, of Sunderland, is, we hear, now engaged in painting a portrait of Bishop Lightfoot, whose untimely death has produced such a profound sensation in the religious and literary world. The Bishop gave Dr. Haswell his last sitting only a day or two before his journey to Bournemouth, and the portrait will, therefore, be the very last of the worthy prelate. With such melancholy interest it is sure to excite much attention. It is not improbable that the picture will be reproduced by photogravure or some other photographic process, but for private circulation only.

EXHIBITIONS.

SOCIETY.	PLACE.	OPEN.	CLOSE.
Phot. Soc: India	Calcutta	December	January 18th, 1890
Keighley Phot. Soc:	Keighley	January 6th, 1890	Feb. 20, 1890
Royton (Church Restoration)	Royton (Lancs.)	Feb. 5, 1890	Feb. 27th, 1890
Hastings and St. Leonard's Phot. Soc:	Hastings	Feb. 25, 1890	March 15th, 1890
Worcestershire Camera Club	Kidderminster	March 1st, 1890	March 29th, 1890
Crystal Palace Phot. Ex:	Sydenham	March 11th, 1890	April
Ulster Phot. Soc:	Belfast	April, 1890	April, 1890
Belfast Y. M. C. A.	Belfast	April, 1890	April, 1890

Our Contemporaries at Home and Abroad.

THE *British Journal of Photography*, in a leader on "A Mysterious Lantern Slide," says:—"A few weeks ago we received a parcel of French lantern slides from a correspondent, who informed us that they formed portion of some which he had taken with him to India, where they had been for two years. Observing that they had gradually been becoming somewhat obscured by a species of mistiness, he undid the binding of one of them with a view of wiping off the scum which seemed to have settled upon the covering glass, when he found that all the area not protected by the mat had become corroded. Only those slides of French manufacture were thus affected; those of English make suffered no change. Curious to know the cause of this corrosion, he sent them to us. . . . Knowing that the singular beauty of many of the French slides depends upon their being toned with mercury, we casually mentioned this when bringing the subject before the meeting of the London and Provincial Association on Thursday last week, and a clue to the difficulty was suggested by Mr. Everett, one of the members. Mercury, he said, was well known to attack glass, presumably from its affinity for lead. . . . Following up this idea, we think a valid cause of the disintegration of the glass is to be found in the fact that mercurial vapour, liberated from that imbedded in the interstices of the image by the heat of India, operated upon the glass and decomposed it." Other articles are "Photographing Interiors," "Sensitometry" (concluded), "Improvement of Faulty Negatives," "Coloured Photographs" (concluded), and "Novel Means of Remedying Certain Defects in Portraits."

The *Photographic* (Vienna) contains an excellent paper by S. Koller on the preparation of platinotype paper, and one by Anton Einsle in Wien, on "A New Method of Developing Dry Plates."

The *Eye* (Chicago), writing upon the Daguerre Memorial Fund, says:—"In the year of 1883 in France a very handsome monument was erected to the memory of Daguerre, the funds for the same being contributed by photographers from all parts of the world; even from Chicago many of us sent our mite. A bust by the celebrated Capellaro is surmounted on a pedestal about eight feet high. Now, would it not be a good thing to have a similar monument for this country?"

The *Journal of the Photographic Society of Great Britain* (December 20th) contains an interesting paper by Mr. G. M. Whipple, Superintendent of the Kew Observatory, on "Photography in Relation to Meteorological Work," read at the meeting on the 10th December. In the course of the paper he said: "I shall not attempt to go into the history of the discovery of the various instruments which were employed by the meteorologists when photography came into notice. It was soon found to be a convenient handmaid which could be brought to his aid, and would relieve him of a considerable amount of watching, by recording instrumental changes which took place during periods when he was elsewhere engaged."

The *Journal of the Photographic Society of India* (Calcutta), in speaking of the photographs submitted to the editor for criticism, says: "A few days ago a gentleman handed me a plate that was as mixed as his feelings. The subject was an open-air group, but while some parts of the figures were negative, others were positive. The general aspect was weird enough to explain fully the enquiring look of my friend in handing me his work. Of course, the more experienced of my readers must have perceived that the plate was a partially reversed negative, and that its appearance was the effect of too strong action of light, or of what is technically known as solarisation. My friend, however, believed that either the plate-maker had played him a trick, or that a certain unmentionable personage had resumed his connection with our 'black art.' He had read Robinson, and, in humility trying to follow him by having the sun facing the camera, had produced a monster instead of a picture. We may not all be Robinsons, but we can all shade our lens." The number also contains Mr. J. Gale's article, published in the *AMATEUR PHOTOGRAPHER*, on "The Natural in Photography," and one by Lieut.-Colonel J. Waterhouse on "Orthochromatic Photography."

The *Photographer* (Glasgow), in its notes, says: "There is to be held shortly a competition of instantaneous photographs, in which all amateurs are invited to take part. The arrangements

are now being made by the Council of the Italian Photographic Society. There is to be a public competition, and all amateurs, irrespective of nationality, will be invited. The exact date of the competition will be announced later on." There are also continuing articles on "Dry-Plate Photography for Beginners," "Photography on Glass," and "The Practical Printer."

The *Photographic News*, speaking of Mr. Lyonel Clark's paper before the Camera Club on "Sensitising Drawing Papers," says: "For photographic use, starch is a better substance than gelatine for the sizing of papers, and genuine Bermuda arrowroot is a convenient and easily obtainable form of starch for the purpose. In the substitution of gelatine for albumen, time may possibly prove that little or no advantage has been gained, so far as the durability of pictures printed out fully by sunlight is concerned." It deals, in other articles, with "Dark-Rooms," "The Studio Roof," "The Progress of Quinol Development," and "Artistic Feeling."

The *Photographische Notizen* (Vienna) contains articles on the magnesium-light studio of Professor Schirm at Berlin, and on the "Warm-Bath Platinotype Process."

The *Photographic Review*, in a critique on the new edition of "Naturalistic Photography"—with a copy of which, by the way, we have not been favoured—says: "We may express a pretty confident opinion that, had it not been for the fact of the old conventionalists of the photographic world so vigorously writing and talking against this 'positively outrageous work,' to use a favourite phrase, it would have fallen absolutely dead upon the market, and probably the bulk of those who can understand and appreciate it would neither have heard of it nor seen it." There are articles on "Hydroquinone Development," "The Inflammability of Celluloid," "Solar Photography," and "Blisters on Prints."

The *Photographic Times* (New York), in an article on "Subjects for Prize Photographs," says:—"For such a purpose I would suggest a series of photographs of heads or whole figures representing the emotions of the human soul in joy and grief, in happiness and despair, in innocent or vicious moods, sounding, in fact, the whole scale of emotions and passions as reflected in the human face. . . . All these and similar prize offers might be competed for by every amateur possessing a 5 by 4 camera." Other articles are on "Christmastide in Shakespeare's County," with a magnificent reproduction of a photograph of the "Weir Brake," in hoar frost; "Photographing Winter Scenes;" "Winter Pictures;" "Film Photography," with an excellent reproduction of a photograph of the facade of the Duomo of Florence; "Chemistry of Photography," etc. There is also a very fine reproduction by the Electro-Tint Engraving Company of a photograph of the head of a greyhound, which is a most successful specimen of the art.

Photography, in an article on "Exhibition Matters," says:—"That professional photographers are capable judges of technical skill cannot be gainsaid. But, as has been said, 'The obligation of labour destroys the poetry of a calling,' very few of them have been able to spare the time for studying the higher walks of art. So if the artistic quality of a photograph is to be the first consideration, it will generally be found better to secure either the services of a painter, or, better still, two or three painters, and the help of some photographer who has not to grind hard for his daily bread, but who can afford to work for love, to express a verdict on the artistic merit of the work shown." Later on, dealing with the point of "advertisement" medals, it says:—"If these awards go on increasing, we may, in time, expect to see that Mr. James Glashier and members of the Council of the P.S.G.B. have for distribution fifty handsome medals, offered by Messrs. Recketts and Colman, for the best photographs exhibited at Pall Mall mounted with their respective starches. But exhibitors don't seem to value these awards very much, as may be seen by the sorry lot of entries at recent shows; we find on consulting late catalogues that in some cases only one or two entries, in others none at all, were made in some of these private classes. Very few photographers, happily, are like the man who took his turtle to a flower show, hoping to gain a prize because it was the only one there, but value the award according to the number of competitors and acknowledged capability of the judges." Other articles are on "Colour Correct Photography for Landscapes," "Photogravure," and "Photographing in the Public Parks."

The *Photographische Rundschau* (Vienna) contains a good reproduction of an instantaneous seascape, and a charming interior by Lichtdruck process, articles on "Retouching," "The Proceedings of the Vienna Photographic Society," and shorter articles on "Cameras," etc.

Societies' Meetings.

NOTE.—In this column the Editors can, of necessity, only give a brief summary of the proceedings. The PHOTOGRAPHIC SOCIETIES' REPORTER was established to report the transactions of Societies, and the Editors will be glad to receive reports for insertion as early as possible after the meetings have been held, and at the latest before the 24th of each month.

FALKIRK AM: PHOT: ASSOC.—The usual monthly meeting was held on the 19th ult., when a lecture was delivered by Jas. Craig Annan, Secretary of the Glasgow Photographic Association, on the "History of Art Illustration, and its Relation to Photography at the Present Time," illustrated with specimens of the various processes. The lecturer handled his subject with great ability, and proved himself to be a gentleman of artistic taste.

PHOT: SOC: OF IRELAND.—A technical meeting was held at the Society's rooms, 15, Dawson Street, Dublin, on the 20th ult., Mr. Louis Meldon in the chair. Dr. Cosgrave, F.R.Q.C.P., read some notes on Ilford lantern plates relative to his experiments with those plates under varying periods of exposure to the light of an ordinary gas jet, the results obtained being exhibited at the same time through the lantern. Dr. Scott, F.R.C.S.I., showed in the same manner a set of these plates, some exposed to the light of a paraffin lamp, and some to that of magnesium wire, the developer being eikonogen with all. Very rapid results were obtained with the magnesium wire. Mr. Conan brought forward the subject of the construction, etc., of the dark-room proposed to be fitted up on the Society's premises. An interesting discussion followed, in which many of the members took part. The negatives taken during an excursion of the Society to Poula-phouca in September were handed round for inspection and criticism. Eleven new members were elected, and seven more proposed at this meeting.

WEST LONDON PHOT: SOC.—On the 27th December a technical meeting of the above society was held at the Addison Hall, Mr. C. Garner Richardson, M.A., occupying the chair. Mr. St. Clair Buxton, F.R.C.S., Mr. W. H. Whitear, and Mr. Miller were elected members of the Society. Acting upon a suggestion from the Chairman, the discussion on Mr. Stein's paper on "Hand Cameras" was adjourned until the second meeting in January. The Secretary (Mr. Hodges) informed the meeting that the annual exhibition would be held on the 10th inst., at 7.30. The exhibition would remain open on Saturday, the 11th, from 3 to 9.30. In addition to the pictures a musical programme would be arranged for each evening, and light refreshments provided. Mr. Miall, the inventor of the Facile detective camera, attended and explained its construction to the members. In reply to the following question: "Would the addition of sulphurous acid to the fixing bath have an injurious effect on the negatives?" Mr. Stein said the effect would be to liberate sulphur, which would be prejudicial to the negatives. Mr. Hodges thought it not advisable to add any acid to the fixing bath, and least of all sulphurous acid. Mr. Rickford desired to know the proper quantity of magnesium ribbon to burn when reducing half-plate negatives

to lantern size by reduction in the camera. Mr. Bennett said he had produced many slides in that way, and had found three to five feet necessary, burnt about three inches behind the negative. Mr. Winter thought the amount excessive. What plates were used? Mr. Bennett: Mawson and Swan's and Thomas's. Thomas's required more ribbon than Swan's. Mr. Cobb showed some bromide prints which had been bleached by immersing in a solution of bichromate of potassium acidified with hydrochloric acid, and after exposure to light re-developed with ferrous oxalate. The tones produced were warm brown. Mr. Hodges said the degree of warmth would depend upon the amount of re-exposure given. Bromide prints would tone to a good brown with the ordinary uranium intensifier. Mr. Leslie Selby recommended bleaching with mercury, and subsequent treatment with sulphite of soda, as advocated by Mr. A. R. Dresser. The proceedings then terminated.

MESSRS. FREY AND Co. have produced a novel form of celluloid film for positive work. This film has compounded with it sufficient white pigment to give it the appearance of ivory, and positives printed upon it have a wonderfully soft and attractive appearance. Pictures so produced can be inserted in albums in the usual way, or, printed deeper, will make admirable window transparencies.

A SUBSTITUTE FOR CHRISTMAS CARDS.—One of the two successful competitions in a recent "Suggestion Competition" for a substitute for Christmas cards, promoted by the *Birmingham Weekly Mercury*, suggested photographs of various kinds for the purpose. He put first photographs of family parties engaged at dinner, or some game, taken by the flash-light; secondly, copies of some object or objects of interest in the locality; thirdly, portrayal of the parties, with a background of some scene abroad in which they are all interested. The scheme is good, though the idea is a somewhat old one.

NEWCASTLE (STAFFS.) AND DISTRICT AM: PHOT: SOC. intend to hold an exhibition of photographic work by members early in March, with two extra classes, one open to local professionals, and one open to the members of the Utttoxeter Society, which is the only other photographic society in North Staffordshire. As no entrance fees are to be charged for exhibits, the Society itself is unable to offer prizes for competition, but three or four members are subscribing to present a bronze medal in each of the twelve classes. In the "Pure Landscape and Seascape" class the proprietors of the *AMATEUR PHOTOGRAPHER* have very kindly offered a bronze medal, subject to their usual conditions. An Exhibition Committee has been elected, and arrangements are being made to keep the exhibition open for three days, and to open it with a conversation. This will be the first exhibition of photographs in North Staffordshire, exception being made to the *AMATEUR PHOTOGRAPHER* Monthly Competition prints which have been publicly exhibited on several occasions by the Society. The Society, although it has only been in existence three months, has already a roll of fifty members.

To Correspondents.

THE insertion of **QUERIES** and **ANSWERS** is attended with much labour, and it is requested that the questions asked and the answers given shall be short and to the point. No charge is made.

All communications for the columns are to be addressed to The Editors, "Amateur Photographer," 1, Creed Lane, Ludgate Hill, London, E.C.

RULES.

1. Write clearly and distinctly on one side of the paper only.

2. Write each Query or answer on a separate sheet of paper.

3. Write the name and address legibly on the back of each communication, and sign all Queries and Answers with name or *nom de plume*.

4. All matters for these columns **MUST** be received by **TUESDAY MORNING'S POST**.

5. The Editors do not undertake to answer questions by post.

6. In answering Queries correspondents are requested to mention, in every instance, the number and full title of the query referred to.

QUERIES.

3334. Obnetter Paper.—(1) Can the bath for this paper be used over again in the same manner as the toning bath for silver prints? (2) A hint respecting the process of filtering with kaolin will oblige. Have tried this, but only got a muddy mixture of kaolin and toning bath. (3) Does an old toning bath require to be tested for acid in the same manner as the bath for albumenised silver prints? (4) I fail in getting prints that have been squeezed on glass to lie flat when mounted. They invariably bulge out at the middle. Is there any special method of mounting this paper to get it to lie flat?—**PETARR.**

3335. Intensifier.—Would "Radiation" please inform me if Edwards' solution of pyro would suit the intensifier as well as the sulpho-pyrogallol? And if so, how many grains of pyro per ounce must be used? Should Edwards' pyro not suit, please state how many grains of pyro is contained in the 3 minims?—**T. J. O'CONNOR.**

3336. Spoiled Negative.—While in contact with Pizzighelli paper, a quantity of black spots broke out over it like black dust. I cannot efface them. The negative is a valuable one. Can these be got rid of?—**MEPHISTO.**

3337. Lantern Plates.—Can lantern plates be prepared with the same emulsion as the ferro-prussiate paper so as to obtain blue transparencies?—**LANTERN.**

3338. Platinum v. Gold.—Does platinum tone with as good effect as, and at much less expense and with greater ease than gold? If so, why is it not usually employed instead?—**G. M. S.**

3339. Oiled Glass.—If oiled glass has been used for drying and glazing prints in optical contact, is it advisable not to put more oil on for the next time, but to trust to the oil remaining in the pores of the glass?—**G. M. S.**

3340. Phosphate Bath.—If a gold and phosphate bath steadfastly refuses to tone, however alkaline, is it likely to be improved by keeping, or anything else?—**G. M. S.**

3341. Criticising Photographs.—Wanted, name, etc., of amateur photographic club where members' photographs are criticised by a good photographer and sent round every month.—**DLE.**

3342. Zincography.—I am anxious to learn zincography and process work generally. Can any one kindly tell me where I can take lessons? also can they recommend a book on the subject?—**P. S. O.**

3343. Argentine Republic.—"Gringo" would be

obliged for loan of views or negatives illustrating life in the above.—JOHN NEWTON (address with Editors).

3344. **Lenses.**—I am anxious to use with a new camera, besides a landscape lens, the front combination of a Ross R.S., but for the latter the camera is just too short. An inch and a half tube screwing into the flange of the single lens and taking at the other end the screw of the Ross, would give the extra length required and enable both lenses to be used. Would the tube cut off the view or immoderately lengthen exposure? I should be grateful for suggestions of a better plan other than lengthening the camera.—MELCHIOR.

3345. **Toning.**—Can any of your numerous readers tell me why my purple-toned prints turn to a brown tone on being placed in the hypo bath? I use the borax bath.—J. C.

3346. **Intensification.**—I intensified some of my negatives taken this summer with bichloride of mercury and iodide of potassium. Wishing to take a few more prints a short time ago, I was annoyed to find some of the negatives spoilt. The intensification appears to have gone on in the high lights, producing ugly dark patches. What is the cause and remedy (if any)?—J. C.

3347. **Cloud Negatives.**—I should be glad of information as to the best way of preventing spots on Wylies cloud negatives. It is unpleasant to be obliged to re-oil them each time previous to occasional usage. I have kept them in oiled and waxed papers.—CLERICUS.

3348. **Leimtype.**—Can any of your correspondents give me any practical information as to the working of the "Leimtype" process (or any similar process for producing relief plates), or tell me where the information may be obtained? I want a list of materials required and details of working.—RELIEF.

3349. **Photographing Flowers.**—What lens is best to use—background, method of arrangement, lighting, exposure, plates, and printing paper? Are Fry's celluloid films and the Platinotype Company's paper appropriate? Is there any manual giving directions?—S. E.

3350. **Finder.**—Can any one give me instructions how to make a finder for a detective camera? I can get some small lenses $\frac{1}{2}$ in. and 1 in. focus. A small sketch would be acceptable.—NEMO.

QUERIES UNANSWERED.

Dec. 6th.—Nos. 3274, 3277, 3283, 3284, 3286, 3289, 3290, 3291, 3293.
13th.—Nos. 3297, 3298, 3300, 3302, 3304, 3305, 3306, 3307, 3312, 3314.
20th.—Nos. 3318, 3319, 3320, 3321, 3324, 3325.
27th.—Nos. 3329, 3330, 3332.

ANSWERS.

3317. **Sensitized Paper.**—As I use a carbonate of soda toning bath, and can obtain almost any tone with and use the same plates as "Amateur," I shall be glad to give him the formula.—MEPHISTOPHELES (address with Editors).

3323. **Hydroquinone.**—On referring to Mr. H. C. Taylor's formula in the issue of Nov. 9th (not 16th), 1888, I find that the "A" solution contains 120 grs. hydroquinone in a mixture of 1 oz. alcohol and (about) 3 ozs. water. The result of a series of rough experiments made some months since to obtain the approximate solubility of hydroquinone in both water and alcohol leads me to believe that the quantity of liquid is not sufficient to take up that amount of quinol. I had had six test tubes, each containing 4 drms. of distilled water, and added 10 grs. hydroquinone to each; the first two had the water raised to boiling point, the second two had the water cold and dissolved by raising the temperature gradually, while the others dissolved the hydroquinone cold (52 degs.). None of the test tubes had more than $\frac{1}{2}$ gr. undissolved, and the next day the entire contents were emptied into a stoppered bottle. I next took two tubes, each containing 2 drms. alcohol, and added 40 grs. hydroquinone to each, which was all dissolved but about 1 gr. in each case. The contents of these latter tubes were emptied into the same bottle as before, which then contained 140 grs. hydroquinone in a mixture of 3 ozs. water and $\frac{1}{2}$ oz. alcohol. A few days afterwards I found that nearly the whole of the hydroquinone was deposited at the bottom of the bottle, instead of the 4 or 5 grs. I had expected to find, about one-half of the crystals being of irregular form, while the others were long and spinous. I have not had opportunity to go further in the matter since then, but incline to the belief that the irregular crystals are those that were dissolved in the water, and the others in alcohol. In any case I think "Enquirer" will come to the conclusion that it is hydroquinone that is thrown down in his solution, and would recommend him to use the Thomas or Ilford formulae in preference.—THE SMITH.

3331. **North Queensland.**—Ilford's are largely sent to Brisbane, and are kept in stock in all sizes by Messrs. Lither and Co., in that town.—J. H.

3333. **Spain.**—Ilford plates can be had from F. Arenas, 5, Plaza Regomi, Barcelona, who keeps all et ceteras for photography.—J. H.

EDITORIAL.

NOTE.—Anyone requiring an opinion upon photographic apparatus, plates, etc., must give a number or initial for identification, as in no case will makers' names be inserted in this column.—EDS. AM: PHOT:

P. S. C.—We think that there is a decided advantage in using the plates which you refer to, and we happen to know that certain well-known workers do use them for the particular purpose specified in your letter. For ordinary use, No. 3; instantaneous, 7 or 8.

G. M. S.—There has been much discussion as to what should be an actual ten per cent. solution, but for all practical purposes it is represented by, say, one ounce of a salt or liquid made up to ten ounces by the addition of water. This, although not scientifically correct, is what most compounders mean when they direct the use of a ten per cent. solution.

PALMAM.—There are so many shutters in the market that your question is a difficult one to answer. Would it not be best for you to consult our recent back numbers, where you will find reports about many kinds, and, in some cases, evidence of their efficiency?

R. C. G.—(1) See answer to "Palmam." (2) An article on the subject will appear very soon.

G. B.—The mark is due to undissolved bromide of silver. In other words, the hypo has not fully acted upon this particular part of the print. Remedy: Move the prints about in the fixing bath, and let them have a longer sojourn there. Many thanks for your good wishes for the new year, which we reciprocate.

G. Y.—We should certainly recommend No. 1 on your list, which will act well as a single lens when required.

R. C. M.—The limelight would be most unsuitable for the purpose, and, used in the manner which you suggest, would require about an hour's exposure. You would do far better with a magnesium ribbon lamp, moving it about so as to illuminate every portion of the copy in turn, and taking precautions against any direct rays from it entering the lens. An entry form will be forwarded to you.

W. P.—You should get a text-book and read it. Your failure is probably due to under-exposure.

D. R. G.—There is no restriction as to size or shape of opening of lantern-slide mask. You can get masks of any shape at any large photographic dealers. You are quite right as to the injury often done by adapting only part of a negative to lantern purposes.

TORY.—A very pretty little picture, and one which does you credit. Thank you for your kind wish, which we return to you with interest.

"CAN'T DO IT."—Certainly, it can be done by using a 12 by 10 camera.

G. W. S.—Thank you very much; we will accept your kind offer.

E. M. T.—You would do better to buy No. 2. The firm you name are not lens makers, and there is no guarantee in buying from them. You cannot expect a lens made to cover a certain sized plate to stretch over a larger one without detriment to the picture.

Z. Q. A. (Upper Burma).—Your pictures are very interesting, and creditable under the circumstances detailed in your letter. Your exposures have hardly been quick enough to secure the best results.

C. DARLINGTON.—Your pictures show good work. We should, however, have preferred to photograph the waterfalls in actual sunlight, so as to get light and shade on the foam.

J. B.—Not bad for a beginner and considering that they are taken under adverse conditions. Do not carry your development so far, and you will secure softer results.

D. M.—(1) The two names mean the same salt. (2) The solution should be clear and light, but this would not be the case if you mixed the pyro with the water, and afterwards added the sulphite, instead of vice versa.

W. BARRETT.—Received too late.

THOS. WIDDOP.—Publishers will write you. Thanks for letter.

H. D. C.—In our opinion B is the better plate. Have never seen or used the C candle. The D lamp should give you plenty of light.

G. C. LEMAN.—You give no address, but it is hardly worth while to publish the protest you send us. The matter must drop.

E. B. GREVILLE.—Your letter shall have attention.

E. J. JACKSON.—You are quite right, and medal will be sent you in due course. You must not of course enter the same photograph in our future competitions, but you may enter other photographs in one or all.

W. R. FERGUSON.—The prints shall be returned. If you read the conditions of the "Prize Tour Competition" you will find that you are not eligible.

C. L. GREENALL.—Your letter shall receive our best attention. No doubt we can let you have the prints on the date named, but will write you.

GREENWOOD.—Will try and secure some. We think very highly of the process.

J. MCMURDO.—The remarks refer to the "enlargement," and not the negative. For "name of plate" give name of paper, etc.

Stereoscopic Slide Competition.

(Third Year.)

SLIDES have been received from:—

J. Taylor ...	Dawsbury.
C. V. Shadbolt ...	Chislehurst.
F. B. Ellison ...	Ripley.
M. W. Thompson ...	Manchester.
H. G. Williamson ...	Bollington.
F. Howard ...	Wallingford.
W. Bevan ...	Hoole.
H. G. Ridgway ...	Sunderland.
S. Griffin ...	Salisbury.
Capt. T. Lamb ...	Channel Isles.
T. R. Marriott ...	London.
F. Daft ...	Leicester.
H. Forsyth ...	Bradford.
T. S. Mayne ...	Liverpool.
W. H. Charlesworth ...	Huddersfield.
S. Stamp ...	Stockton-on-Tees.
T. Ferguson ...	Kilmarnock.
W. Slinger ...	Lancaster.

Sale and Exchange.

RULES.—Four penny stamps for twelve words or less, and one for every additional three words, must be enclosed with each advertisement, together with the name and address of the sender, which must be paid for, and sent to Hazell, Watson, and Viney, Ltd., 1, Creed Lane, Ludgate Hill. A single figure, or group of figures undivided by letter, space, stop, or words, counts as one word; compound words count as two words.

DEPOSITS.

Deposits for goods to be forwarded on approval may be made with our Publishers, who will hold the amounts deposited until they are satisfied that the transaction has been executed to the satisfaction of both parties. Cheques and Post Office Orders should be made payable to Hazell, Watson, and Viney, Ltd. A nominal charge 1s. is made of whether a sale is effected or not.

N.B.—Trade Advertisements cannot, under any circumstances, be inserted in this column. Such advertisements can be inserted elsewhere at the Trade Scale, which may be obtained on application to Parry and Crawford, 1, Creed Lane, Ludgate Hill, London, E.C.

"Amateur Photographer."—AMATEUR PHOTOGRAPHER, from commencement to date, five vols. bound; price £2 10s., or exchange for detective camera.—Address, H. Nunn, 1, Queen's Gate Place, London, S.W.

Backgrounds.—Two backgrounds, canvas on rollers, graduated, 6s.; exterior, 7s. 6d.—Tooth, Caldecott Street, Rugby.

Burnisher, etc.—Useful burnisher, 8 in., 9s.; Lancaster's Universal stand, half-plate, 12s.; quarter-plate washing tank, 2s.; flash lamp, 1s.—M. Blacow, 110, Ulleswater Road, Lancaster.

Cameras.—Lancaster's Instantograph whole-plate, complete, as advertised in Lancaster's 1889 catalogue; £5; new.—Ward, Glen Lea, Haslemere, Surrey.

New 12 by 10 Thornton's patent tourist camera, with all latest improvements, complete with two double dark-slides, five inner frames, patent revolving back, patent turn-table, and set of three-fold sliding bottom legs, only been used a few times; approval; deposit; price £14 10s.; cost £17 10s.—W. Clare, 3, Southend, Ledbury.

Camera, Lens, etc.—Quarter Rayment's patent long-extension camera, three double backs in cases; 5 by 4 Optimus R.R. lens, condition new, in leather case, £5 5s.; Optimus plunge shutter, 20s.; Wood's washer, 7s. 6d.; magnesium hand lamp, 3s.; four-fold stand, 12s. 6d.—T. 379A, Strand, W.C.

Dark-Slides.—Set of 6 Tylar's metal dark-slides, half-plate, equal to new; 18s. lot.—F. W., 15, Canal, Salisbury.

Lenses.—7 by 5 Optimus rapid Euryscope lens, aperture f/6, nearly new; only £3.—Alpha, 8, Bath Street, Brighton.

Lancaster's half-plate rapid and W.A. Rectigraphs, 35s. and 22s.; exchange Eastman's quarter roll-holder.—Lancaster, 15, Wharton Road, West Kensington.

Lancaster's wide-angle Rectigraph quarter, new, never used; cost 30s.; sell 24s.; approval; deposit.—Jowett, 21, Cheapside, Lancaster.

Sets.—Marlow's Instanto camera, half-plate, all movements, instantaneous lens, shutter, tripod, and view-finder, splendid condition; cost 88s. 6d.; sell 60s.—Drake, Pavilion Place, Exeter.

Quarter-plate pocket camera, by Rouch, and six double backs, 50s.; pair of $\frac{1}{2}$ in. condensers, unmounted, 5s.; Rouch's patent half-plate camera, and Hare's changing box for 12 plates, £5; Diamond detective camera, £1.—G. H. Franklin, Rickmansworth.

For sale, half-plate Instantograph camera, in best

condition, fitted with Optimus R.R. 7 by 5 lens, Waterhouse stops, two double dark-slides, folding tripod, canvas waterproof satchel and case, and a few trays, etc.; £4 15s. the lot.—Apply, Alexander Albu, 2, Great Prescot Street, London, E.

Half-plate camera, Lancaster's Instantograph, latest pattern, leather bellows, and all improvements, including reversing back, fitted with fine rapid rectilinear lens and Waterhouse stops, for either views or portraits, slide, carrier, and stand, guaranteed finest order; approval; 75s.—Cooper, 9, Sussex Terrace, Markfield Road, Page Green, N.

Scott's quarter-plate camera for sale, with Ross' rapid symmetrical $4\frac{1}{2}$ in. lens, which may be made into a single lens 9 in. focus, complete in canvas case, with set of stops, printing and developing dishes, almost new; price £3 10s.; cost double; only selling to get larger camera.—F. Liddell, Mossley Hill, Liverpool.

Underwood's 1889 quarter-plate Albion set, complete; cost 52s. 6d.; used twice; bargain, 40s.—Ernest, Woodlands Mills, Stroud.

Lancaster's Instantograph half-plate camera, 1889, leather bellows, reversing back, rising and falling fronts, fitted very fine rapid rectilinear lens, fine definition, covers well, Waterhouse stops, folding stand, double dark-slide, and quarter carrier; approval; 75s.—Cooper, 9, Sussex Terrace, Markfield Road, Page Green, N.

Camera, Furnival half-plate, all latest movements,

three mahogany double backs, folding tripod, leather and canvas cases, etc.; bargain, £8.—C., 30, Brooke Road, Stoke Newington.

For sale, Lancaster's quarter-plate Merveilleux camera (1837 patent), with guinea instantaneous lens and patent shutter, perfect condition; also Lancaster's 5s. quarter-plate landscape lens; offers wanted.—Wren, 54, Adelaide Square, Bedford.

Shutters, etc.—For sale, Thornton's time and instantaneous shutter, aperture $2\frac{1}{2}$ ins., cost 25s., price 14s.; Lancaster's quarter-plate changing box, slightly damaged, cost 21s., price 7s.; one quarter-plate double back, cost 7s. 6d., price 3s. 6d.; wanted, 7 in. equivalent focus R.R. lens.—H. Wilkinson, Massey Park, Liscard, Cheshire.

WANTED.

"Amateur Photographer."—AMATEUR PHOTOGRAPHER, 1888, in exchange for "Photographic News," 1888; must be clean and perfect, with supplements.—J. Higgin, Athenaeum, Manchester.

Burnisher.—Burnisher, full-plate or larger, cheap.—Harrison, 239, Oxford Street, London.

Cameras.—A good half-plate camera, in exchange for a quarter-plate set, complete.—Mr. Jack, Adlington, Lancashire.

Camera, etc.—To exchange 9 in. burnisher and lamp as new, cost 35s., for quarter-plate camera, lens, and dark-slide.—Evans, Minehead, Somerset.

Condenser.—4 in. condenser; exterior background exchange slides.—Greaves, 190, Heyside, Oldham.

Lanterns.—Lime-light lantern, Sciopticon or similar; also portable gas generator, Chadwick's or similar, good condition.—Address, Dr. Bennett, Riverside House, Bandon, co. Cork.

Second-hand Optimus lantern, 4 in. condensers, complete; in exchange for very handsome paraffin lamp, with heavy real bronze stand, value about 30s.—H., 16, Carberry Place, Leeds.

Lantern Slides.—Good lantern slides to illustrate a popular lecture on coal mining.—Thomas Reader, 171, Hemingford Road, N.

Lens.—Ross' 8 by 5 rapid symmetrical.—Tilston, 51, Amity Road, West Ham, E.

Outfit.—Second-hand photographic outfit, quarter-plate, good condition.—H. Norris, Fernacre, Urms-ton, Manchester.

Prints.—Will any brother photographer kindly send some spare prints of general interest for sale at bazaar next Tuesday and Wednesday, for church being built here?—Rev. E. Page, Torquay.

Set.—Half-plate camera, dark-slide, lens, and stand; state price and maker.—Bertram, Kidlington, Oxon.

Slides.—Double dry-slide, book form, whole-plate, cheap; state price.—Gubbins, Galway.

Stereoscopic Camera.—Old stereoscopic camera.—Hum hries, 29, Grafton Road, Holloway, London.

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NOTICES TO SUBSCRIBERS.

Subscriptions must be prepaid.

UNITED KINGDOM	Six Months, 5s. 6d.	Twelve Months, 10s. 10d.
POSTAL UNION	6s. 6d.	13s. 0d.
INDIA, CHINA, ETC.	7s. 9d.	15s. 3d.

"AMATEUR PHOTOGRAPHER" MONTHLY PHOTOGRAPHIC COMPETITION.

No. 8.—"ENLARGEMENTS" (January 16th).

Two Silver and Two Bronze Medals.

(All pictures must have attached to them a print from the original negative; they must be mounted, and can be of any subject.)

Entry form forwarded on receipt of stamped and addressed envelope.

Address:—"Monthly Photographic Competition," The Editors, Amateur Photographer, 1, Creed Lane, Ludgate Hill, London, E.C.

"AMATEUR PHOTOGRAPHER" PRIZE TOUR COMPETITION, 1890.

(FIFTH YEAR.)

Competitors' work will be exhibited at the Crystal Palace Photographic Exhibition.

PRIZES.

FIRST PRIZE:

"AMATEUR PHOTOGRAPHER" GOLD MEDAL.

<i>Second Prize</i>	£4 4 0	and Silver Medal.
<i>Third</i> "	3 13 6	" " "
<i>Fourth</i> "	3 3 0	" " "
<i>Fifth</i> "	2 12 6	" Bronze "
<i>Sixth</i> "	2 2 0	" " "
<i>Seventh</i> "	1 11 6	" " "
<i>Eighth</i> "	1 1 0	" Certificate.
<i>Ninth</i> "	15 0	" " "
<i>Tenth</i> "	10 6	" " "

All photographs and MSS. must be endorsed "Prize Tour Competition," and addressed to the

Editors, AMATEUR PHOTOGRAPHER,

1, Creed Lane,

Ludgate Hill, London, E.C.,

on or before the 28th of February, 1890.

NOTE.—A copy of rules, form of declaration, and competitor's form will be sent on receipt of stamp.

PHOTOGRAPHIC QUARTERLY.

Illustrations for future Numbers.

It is intended in the future numbers of the "PHOTOGRAPHIC QUARTERLY" to present Subscribers with a Photogravure of some well-known Photograph. Will the Readers of the "AMATEUR PHOTOGRAPHER" fill up the annexed Coupon, with the Title of Picture and Name of Photographer whose work they consider most suitable for the purpose. The publishers will endeavour to reproduce the Photographs receiving the largest number of votes.

If preferred, Title of Picture and Name of Photographer may be sent on a Post Card, but in any case the Name and Address of the Voter must be given.

The Coupon or Card must be returned on or before Monday, the 13th of January, 1890, addressed to:—

The Editor, "PHOTOGRAPHIC QUARTERLY,"

1, CREED LANE, LUDGATE HILL, LONDON, E.C.

"PHOTOGRAPHIC QUARTERLY" ILLUSTRATION

VOTING COUPON.

I _____

of _____

consider _____

by _____

a suitable Photograph for reproduction by Photogravure, and worthy of publication in the "PHOTOGRAPHIC QUARTERLY."

Date _____

NOTE.—The Result of the Voting will be announced in the "AMATEUR PHOTOGRAPHER" of January 17th, 1890.

THE AMATEUR PHOTOGRAPHER

Editors:—CHARLES W. HASTINGS & T. C. HEPWORTH, F.C.S.

TELEPHONE
No. 1645.

Offices: 1, Creed Lane, Ludgate Hill, London, E.C.

TELEGRAPHIC ADDRESS,
"VINEY, LONDON."

Vol. XI. No. 275.]

FRIDAY, JANUARY 10, 1890.

[PRICE TWOPENCE.]

OUR VIEWS.

"To hold as 'twere the mirror up to nature."—*Shakespeare.*

NOTE.—All Communications for the Editorial Department are to be addressed to—
The Editors,
"Amateur Photographer,"
1, Creed Lane, Ludgate Hill,
London, E.C.

The Editors are "At Home" on Tuesday Afternoons from 2 o'clock till 5.

We are sure our readers will be much interested to read Mr. H. P. Robinson's "Complete Photographer," which commences in this number. Mr. Robinson's teaching contained in the dialogue can but be for good, and the admirable light set of his remarks will afford much pleasure to those who study our columns.

* * * *

PHOTOGRAPHY is being written upon in journals and magazines of all kinds, but we believe the articles being written for the *Art Journal* by Mr. H. P. Robinson upon "Winter Photography" are the first of the kind published in that admirably conducted journal. It is a proof, if proof were needed, that the world of art and artists are keenly alive to the necessity of studying and making themselves masters of photography. Whilst writing upon the doings of Mr. Robinson we would mention his contribution to the *Photographic News* upon the life and work of O. G. Rejlander. Mr. Robinson is well able to tell of his wonderful works, having made his acquaintance in the year 1858, and until the day of his death kept in constant touch with him and the work that he was engaged upon. We cordially commend the article to the consideration of those who visit or have visited the collection of Rejlander's photographic work now on view at the Camera Club.

* * * *

Will readers of the AMATEUR PHOTOGRAPHER kindly send in the coupons with their vote as to the best illustrations for the PHOTOGRAPHIC QUARTERLY? All coupons must be received on or before the 13th inst.

THE PHOTOGRAPHIC QUARTERLY has come in for considerable commendation, and the frontispiece, "Harmony," is much approved. The April number will be, if anything, in advance of either of the numbers that have been published.

* * * *

BINDING and reading cases for the PHOTOGRAPHIC SOCIETIES' REPORTER are being prepared. The REPORTER will make a very useful volume for the libraries of photographic societies, and our publishers will be glad to receive orders. The number of volumes at their disposal is exceedingly limited, owing to the very heavy call made for the back numbers.

* * * *

For some time we have been busily engaged in preparing the first number of the AMATEUR PHOTOGRAPHER *Prize Pictures*. If the one about to be published is appreciated by the public and proves a commercial success, others will speedily be issued. No. 1 will contain five reproductions of Mr. Alex. Keighley's photographs contributed to the AMATEUR PHOTOGRAPHER "Home Portraiture Competition," and for which at the hands of the judges he was awarded our gold medal. The pictures reproduced are "A Thorn in the Foot," "Times is Bad," "Gee Up," "See-Saw," and "Who's Coming?" An essay upon "Photography as a Recreation" accompanies the photographs, and also a short description of the pictures. The book will be "got up" in a highly artistic manner, and will, we feel sure, prove very acceptable to many of our readers at home and abroad.

* * * *

NEXT week we shall publish particulars of the "Competitive Papers," and also the "Competition Prints." We are sure that both these competitions will be extremely popular during the year.

* * * *

We must remind ladies and gentlemen to whom the competitive prints are being loaned that they must send them forward without fail on the day named in our advice

For Contents, Prize Competitions, Notices, etc., see page 32.

letter. If this is not done, great disappointment and inconvenience will result. We have fixed the dates close together, in order that many may see the work of their brother photographers, but all our plans will be upset *unless* every recipient acts in strict accordance with the instructions given.

* * * *

THE Crystal Palace Photographic Exhibition is already an assured success. The applications for space, especially for those charmingly arranged alcoves, are far in advance of any previous years. It is intended to increase the prize-list. We have received the following special notice:—

"In deference to a generally expressed wish, a special class will be formed in addition to the published schedule, and a silver medal will be awarded for the best picture, irrespective of subject, to be selected by the judges from amongst those pictures which have never been previously shown at a public exhibition. Pictures entered for this prize will be equally eligible for award in their several classes. Two additional silver medals will also be given by Mr. Buchanan Wollaston and Mr. J. F. Peasgood—(A) one by Mr. B. Wollaston for the best picture, irrespective of class, in the amateur section; and (B) one by Mr. J. F. Peasgood for the best picture, irrespective of class, in the professional section, neither picture having taken any other award in this exhibition. The whole of the exhibitors in the apparatus division will be asked to adjudicate upon these supplementary awards."

The last paragraph savours of the popular vote.

* * * *

WITH regard to the pictures for our "Prize Tour Competition," we would remind intending competitors that it will be a very great convenience if the photographs, whether framed or unframed, are sent in as early as possible. On no account will any photographs be received after the 28th of February. The work of registering and cataloguing is likely to be very heavy, and the time at our disposal for hanging them at the Crystal Palace will be exceedingly limited. We must therefore urge competitors to forward their work as early as possible. We will undertake to frame photographs for competitors, and upon receipt of the number and size of mounts will forward memorandum of cost.

* * * *

THE remarks made above apply also, as far as promptness in sending in, to the Lantern Slide Competition. The work of registering and titling is considerable, and if the slides are ready we shall be glad to have them as early as possible. The last day is the 14th of February.

* * * *

THE stereoscopic slides will be adjudicated upon by Mr. A. Stroh, to whom our grateful thanks are due. They will be placed in his hands this week, and his award may be looked for in an early issue.

* * * *

WE have received a very encouraging letter from Mr. W. McLean, of Forbes, New South Wales. He says:

"For a long time past I have been a subscriber to your interesting and instructive paper, and have many times felt desirous of entering photographs in your different competitions.

"You will at once see that in the ordinary way this is simply impossible, as I do not receive your paper until after each month's competition is over and dealt with.

"My object, however, in now writing to you is to request that you will, if possible, kindly allow one or more of the photographs forwarded by me under separate covers to compete in any Monthly Competition for which eligible.

"I have no idea how my pictures will compare with those of

the no doubt many amateur photographers who take part in the interesting competitions; but even if not successful in being worthy of a prize, the copies forwarded may be of some interest to your many subscribers and friends, as showing pictures of subjects in this remote colony, and taken by an amateur whose skill, such as it is, was acquired entirely from the study of books on photography, and the careful reading of the pages of the AMATEUR PHOTOGRAPHER from time to time.

"P.S.—I see photographs are given by different amateurs to the 'Hospital Albums.' After my pictures are dealt with by the Editors of the AMATEUR PHOTOGRAPHER, I shall be pleased if they are accepted for this purpose."

The list of subjects which will be fixed as being those for competition each month, will enable our friend at the Antipodes to compete. The photographs are, considering the disadvantages under which Mr. McLean works, of fair merit; they are not quite up to exhibition standard, but would doubtless be of interest to many who have friends in the colonies.

* * * *

MANY of our readers know what an enthusiastic worker in photography we have in Mr. Paul Lange, the immediate Past President of the Birkenhead Photographic Society and the present President of the Liverpool Amateur Photographic Association. This gentleman spent a considerable time in Norway last year, and took a great number of photographs. He has from these selected about 100 for illustration by the lantern, and is announced to give a lecture on Norway upon the 24th January. We are sure that the views and lecture will be much appreciated by a large audience.

* * * *

WRITING upon the QUARTERLY, a correspondent says:

"I cannot refrain from writing to congratulate you on the last number of the QUARTERLY. The reproduction, "Harmony," is simply exquisite; the expression, pose, and tone are indeed most artistic; it is certainly the best reproduction of its kind I have ever seen. The photogravure of J. W. Swan is simply perfect. Altogether it is a model number, and I heartily wish you every success."

* * * *

NEXT week we shall comment upon the photographs exhibited at Keighley. Owing mainly to the exertions of Mr. J. A. Robson, the admirable Secretary of the Institute, the exhibition is a great success. The photographs are, perhaps, not quite as numerous as heretofore, but the general average of merit is considerably in advance. This is proved by the fact that, except in one class—"Lantern Slides," professional—no awards were withheld. The Institute is to be congratulated upon the exhibition, for the first time, of Mr. H. P. Robinson's new picture, "A Gossip on the Beach."

* * * *

WHEN loaning the photographs contributed to AMATEUR PHOTOGRAPHER Competitions, for exhibition at social gatherings, we felt assured that it would be a means of advancing photography. Although they have hardly commenced their journeying, the formation of another society has resulted mainly from their exhibition. In another column we give a short report of a "drawing-room" meeting held at Louth on the 3rd inst., when it was unanimously resolved to form a photographic society. The Hon. Secretary, Mr. S. Francis Clarke, L.D.S., of 8, Upgate, Louth, will be pleased to hear from any workers in photography who may be desirous of joining the society. Mr. Clarke, in writing us, says—

"It becomes my pleasant duty to inform you that at the

drawing-room meeting of amateurs held here on Friday last (Jan. 3rd), a most hearty vote of thanks was unanimously passed to you for the loan of pictures, 'Hayfield,' 'Seaside,' 'Animal Life,' and 'Inland Scenery,' which I assure you contributed much to the success of our meeting.

"From the enclosed report, which will appear in the local press, you will see that we 'resolved to establish a photographic society for this part of Lincolnshire,' and that for the present I act as Hon. Secretary.

"If, sir, with your usual considerate kindness, you could find an opportunity to draw the attention of amateurs in this part of the country whom I may not have been able to reach, to the movement, and that I shall be pleased to communicate with anyone interested, you will greatly aid the establishment of the new society.

"Personally I again thank you for so kindly sending the photos, and which were again sent 'on journey' by the noon train on Saturday."

* * * *

THROUGH the kind courtesy of Mr. C. H. Bothamley, F.I.C., F.C.S., we had an opportunity this week of inspecting the whole of the buildings belonging to the Yorkshire College. In them we found much to interest us, and were, perhaps, most struck with the universal use of the lantern as a means of illustrating almost every section of science taught in the College. Mr. Bothamley has consented to write an article for the April number of the QUARTERLY upon the "Use of the Lantern in Connection with the Teaching of the Sciences."

* * * *

ABOUT PATENTING.

It has been estimated that of those who take out patents in this country for the protection of their inventions ninety-nine out of every hundred are losers by the transaction. This statement, which we believe is founded on good authority, should deter those who are anxious to distinguish themselves as patentees; and it is no secret that there are large numbers of amateur photographers who are tempted to step in that direction. It is noteworthy that the more simple the thing patented the more is it likely to pay the inventor, always provided that it is of such a nature that it can be utilized by the million. A case in point is the notion of perforating the spaces between the rows of postage stamps, about which there is a legend to the effect that the inventor thereof became a millionaire. This we are much inclined to doubt, for we know that Government departments are not too lavish in their treatment of inventors. But another more recent case is that of the little glass marble which is now so commonly used instead of a cork for bottling mineral waters and effervescing drinks generally. This little contrivance has, we learn, brought a large fortune in royalties to its fortunate inventor. Another example is found in the carbon thread which is rendered incandescent in the electric glow lamp, which Mr. Swan of Newcastle (of photographic fame as well) was the first to think of. There are many inventions, on the other hand, of a far more complex character, such as calculating machines, type-setting contrivances, and the like, which, from their comparatively small employment, can never repay the clever men who have spent their lives, and perhaps all they possessed, in perfecting them.

Although our patent laws have, within recent years, been revised and been rendered more convenient to the poor inventor by spreading payment of the fees over a longer period, the fees themselves have not been much reduced. To the disinterested outsider it would almost seem as if the Government strove their hardest, by imposing this tax upon

ingenuity, to prevent people inventing anything at all. Indeed, they might as well say "the man who commits the crime of inventing anything for the benefit of his fellows is subject to a penalty of two hundred pounds," for the sum of the fees payable in order to protect an invention for the full period amounts to about this sum.

But there is one glaring enormity connected with the Patenting Office, which were it practised by anyone in his private capacity would be called by a very ugly name indeed. As an instance of what we refer to, let us suppose that A. has conceived the idea of a certain form of camera, and thinking that it would be a good thing to patent it, he obtains provisional protection on payment of certain fees. In a few days' time the same idea occurs to C., who spends his money in protecting the same invention. Dozens of unfortunates may follow in the wake of these pioneers, and their fees are taken for a thing which has already been sold to another. A case of this kind recently came under our notice, where the victim had obtained, as he believed, provisional protection for his invention, and had paid the initial fee. He afterwards ascertained that another had obtained protection for the same idea a few days previously. And he subsequently received from the Patent Office, at frequent intervals, some dozens of circulars headed "Notice of interference," each circular intimating that a fresh victim had paid his fee for that which it was impossible to assign to him.

In America the patent laws are far more fair to inventors than they are here. We understand that a single payment of seven pounds will protect an invention for a period of many years. And that payment of this sum is not demanded until search has been made by the authorities in order to ascertain whether the inventor has not already been forestalled by another. The wisdom of making the business of patenting easy and cheap is seen in the wonderful variety of small and unconsidered trifles which are patented by our American cousins. These come over here in vast quantities, and are commonly called "notions." We are accustomed to regard the Americans as unusually clever and ingenious, for the reason that so many of these useful little devices are put upon the market, and our own artificers seem dull in comparison. But we venture to think that if our English inventors had the same facilities for patenting that the Americans possess, they would not be behind them in production of "notions."

Under existing conditions patenting an article is something like a delusion and a snare, and should not be entertained by anyone unless he has some capital at his back, for the protection, when obtained, does not prevent others from manufacturing the patented article, although they can be stopped in their nefarious operations by an action at law. But, as we all know, law is an expensive amusement, and the poor patentee cannot obtain justice unless he is prepared to pay for it. We, therefore, advise amateur photographers when they invent anything new to arrange with some good house to finance the thing for them, and to be content with a royalty upon its sale. Our photographic apparatus manufacturers are so enterprising that they will not let a good thing slip, and a more honourable class of men does not exist.



NORTH SURREY PHOT. SOC.—The annual exhibition and soirée of this society is to be held at the Norwood Institute, Knight's Hill, on the 20th inst.

Letters to the Editors.

FUNDS REQUIRED.

SIRS,—Some time ago you kindly noticed in your leader, the Homes for Orphans, Swanley, Kent. I soon after favoured them with a trial order, and am very much gratified at the result as to work, which gives great credit to the boys and their tutors.

I have no doubt you are aware they are in want of funds to carry on the work. May I ask my brother amateurs to give a helping hand, by sending them printing to do, and selling the same at bazaars, and handing the profits to the institution. I am sure it will be the means of making good use of surplus negatives, that may be utilised to a good purpose. Of course the negatives would be returned to their respective owners. Should your readers require price list, I should advise them to send for one, as the prices are very reasonable, and the prints could be sold at a very reasonable price and ensure a good sale.

This appears to me a means of turning photography to a good purpose, and hoping your readers will give a helping hand. Could not a fund be opened in the AMATEUR PHOTOGRAPHER so that every reader could subscribe his mite?—I am, sir, yours obediently,

J. C. DAWSON.

January 6th, 1890.

* * * *

PHOTOGRAPHING AT BOULOGNE.

SIRS,—In June, 1886, I addressed to you a letter setting forth the extortionate demand of sixty francs made to me by Monsieur de Guildbont, the treasurer of the cathedral, for permission to photograph the interior of that church. Perhaps Mr. Strickland, who, in his letter of the 26th December, gives his experiences of the photographic capabilities of Boulogne, can inform his brother amateurs whether the above prohibitive tax has been removed or not.—Yours faithfully,

GEO. H. VERNEY (Lt.-Col.)

January 3rd, 1890.

* * * *

CHEAP PLATES.

SIRS,—In last week's issue a correspondent expressed his wonder why not all plate manufacturers were ready to supply half-plates at the rate of 13s. the gross, at which rate he had been in the habit of purchasing. The answer is, that it would not and could not pay in a legitimate way of business; that is to say, with a reasonable profit to both manufacturer and dealer. At least one plate factory has recently shut up altogether, and probably it has been to realise stock therefrom that half-plates have been sold at the price mentioned.

Compared with the 1s. for quarter-plates, 2s. 3d. for half-plates may seem high, but the fact is that it is the former price which is unfairly low. Some manufacturer has originally started the 1s. for a dozen quarter-plates motion, probably as an "advertisement cry," and then everybody has had to follow suit, although the game must be about as nearly profitless as it is possible for a thing to be that does not actually bring a loss. Therefore it is not fair, nor is it ever likely to come about, to demand the rates for the larger sizes of plates to be regulated by the price for quarter-plates.—I am, gentlemen, yours obediently,

January 4th, 1890.

ARITHMETICIAN.

SIRS,—Referring to the remarks of your correspondent, "A Country Cousin," I, in common with, I am sure, many other amateurs, would be glad to know where half-plates at 13s. per gross can be obtained. Considering these are days of competition, I am surprised the price keeps up, as the profit on them is very large, and the trouble of coating, etc., is much less than that of collodion, and not unhealthy like the latter.—I am, sir, yours truly,

January 6th, 1890.

E. B. K.

* * * *

GLAZED-SURFACE PRINTS.

SIRS,—I have read your leader on the above subject, and whilst I can fully appreciate the genuine, artistic merits of matt-surface prints, such as platinotype and bromide paper yield, I own to an appreciation of a well-burnished print also. I think if we were to adopt the plan of producing our prints in the several styles, we should be able the more fairly to judge whether such and such a print presented the best effect on either the one or the other kind of paper. Probably for view work the matt

surface lends a charm often from the original negative having been taken with the lens stopped down so as to yield unnecessary sharpness, and in such case the excellent softening effect of a platinotype or bromide print is advantageous.

On the other hand, I often experiment by printing portraits in the two styles, and, provided the negative is a good one, and *not* as sharp as a common line engraving, I give the preference to an albumen print with a finely-glazed surface.

Perhaps I may add one word as to obtaining this polished surface without any trouble or risk to the print. I notice your remark that when squeegeeing prints on glass or other material a careful use of chalk or talc is necessary. Now, this is a tedious and not always successful plan, and to obviate all difficulty and risk I may mention that there is a special enamelled metal plate in the market that only requires to have the wet print squeegeed on to its surface, and to be left to itself to dry without heat. When dry, the print falls off of its own accord! It never requires touching, and never refuses to fall off of itself when quite dry. No preparation of the plate is necessary, no talc or chalk required. I had the pleasure to send you one of these plates some time ago, and now enclose a print for you to see the surface it imparts. Perhaps I may add that these metal plates are obtainable at Messrs. Fallowfield's, or of Mr. Gotz, of Buckingham Street, Strand.—I am, sir, yours faithfully,

January 6th, 1890.

C. HETHTON LEWIS.

NOTE.—The prints sent have a high glaze.—EDS. A. P.

* * * *

NEGATIVE EXCHANGE CLUBS.

SIRS,—May I state here that the official year of the above clubs which I am connected with has expired, and I shall be glad if members will hurry up with the boxes, so that I may start afresh with the new year; also, I shall be glad to hear from any wishing to join, and also from those who were members of my different clubs if they wish to continue so, on account of getting new boxes made and cards printed.—I am, sir, very truly,

January 7th, 1890.

WENTWORTH A. J. CROKE.

* * * *

PRINTING IN CARBON.

SIRS,—Is it usual with workers in carbon to print by means of magnesium? I find that from half-plate, portraits may be printed in a few seconds in portrait purple with an expenditure of 12 ft. of magnesium ribbon, equal to 30 grs. in weight. Six inches of ribbon prints a quarter-plate papyrotype, a bichromated gelatine without pigment.—I am, sir, yours faithfully,

January 6th, 1890.

GEO. W. BASKETT.

* * * *

IS HYDROQUINONE POISONOUS?

SIRS,—In propounding the above query, my object is to discover if any of your readers have experienced any ill effects from its use. Of course I do not want to contemplate its effect taken internally, but can one be affected by its absorption through the pores of the skin in a similar manner to bichromate poisoning? My own experience decidedly points to the affirmative.

In the middle of last summer I returned from a tour, and developed about six dozen exposures with hydroquinone and a caustic alkali, shortly after which every small abrasion of the skin, not only on my hands but on the legs, refused to heal, and grew in a few days into a painful ulcer that obstinately refused to close up. I little suspected the real cause, and when my usual remedy in these cases—viz., a good sharp knife—failed, I went to the best medical man I knew, who prescribed for me under the idea that it was simply a case of bodily weakness. However, his drugs did no good, and I went away for a time, and gradually recovered. When I returned home I developed some bromide prints with hydroquinone, and next morning had the old symptoms returning at once. Thus the cat was out of the bag, and ever since I have been very careful to keep my fingers out of the developer as much as possible, and by this means have not been troubled since.

Now that hydroquinone is so generally used I certainly think that a question like this is worth discussing, more especially as I see in a contemporary, "A member of the Photographic Society of France states that hydroquinone is as poisonous as the alkaline bichromates, and will produce painful and obstinate ulcers"—which would seem to confirm my theories.—Yours truly,

January 8th 1890.

A VICTIM.

The Complete Photographer ;

OR,

THE MODERN RECREATION OF CONTEMPLATIVE MEN.

BY H. P. ROBINSON.

CHAPTER I.

(Compartment of a Railway Carriage. Enter PHOTOGRAPHER to ANGLER and PAINTER.)

PHOTOGRAPHER: Good morning, gentlemen. We all seem bent on taking our pleasures in the country; do you travel far?

PAINTER: The sunshine of the early year is so tempting as to draw all lovers of the country as with a magnet. I cannot resist a run out, although I shall probably idle away the day.

PHOTOGRAPHER: Neither do I expect to do much the first day out, except, perhaps, over-expose some plates in this sudden brightness after so long a winter.

ANGLER: You don't seem to remember me.

PHOTOGRAPHER: Why, my old friend! We have not met for years! What with your having been out of England so long, and my jumping into the carriage so suddenly, I did not recognise you. We will chat over old times anon. You seem to be going fishing?

ANGLER: Yes, like St. Peter, "I go a-fishing." I also have been tempted by the freshness of the spring. Yet, what is food for your art will be poison to mine. I cannot expect to catch many fish in this brilliant sunshine, yet a rod, like a camera or a sketch book, is an excellent excuse for a stroll by the river.

PAINTER: I have often felt an inkling for photography, but I have feared it may interfere with my legitimate occupation, and perhaps spoil me as an artist. I know several friends whose art has deteriorated since they took up your craft. The fatal facility of the camera has made them lazy over the study of nature. Instead of sitting down before "a bit," and steadily working away, taking in colour as well as line and light and shade, they have been content to bring home nature in a plate-box, and accept her at second hand.

PHOTOGRAPHER: And it serves them right if their work loses quality. Photography should be practiced for itself, and not as a handmaid to any other art, although I admit there are many ways in which it may be legitimately useful to a painter, and even advisable for his use if taken in moderation. It is complete in itself as far as it goes. The photographer can "express himself" without any outside help, and so should the painter. Yet there is no reason why the painter should not practice photography, and carry it to its legitimate issue. The best photographers have been those who were trained to art and had begun with painting.

PAINTER: I happened to go with a friend to the last conference of the Camera Club, and heard a well-known A. R. A. interpolate a remark in a paper he read to the effect that there were only one or two artists among the photographers, and that even that was a mistake, as nature had evidently intended they should be painters.

PHOTOGRAPHER: Ah! I remember it. I know him well. He is nothing if not severe, and perhaps a little paradoxical. Painters are beginning to recognise that there is a good deal of art in photography, and that those who know how to make pictures by its aid are increasing.

ANGLER: Yet how I longed for a camera in my travels! There is such a lot of drudgery in photography, such a lot of uninteresting study to go through before you come to picture-making.

PHOTOGRAPHER: Not necessarily. It is no longer compulsory to have a profound knowledge of chemistry, optics, and cabinet work, although all are interesting, and even the painter should have some knowledge of the constitution of the materials he uses. There was a time—hundreds of years ago—when painters had to make their own paint, or keep colour-grinders in their studio. In the words of the song, "They never do it now." In the old days of wet photography it was necessary for photographers to know something of chemistry, but it is not so now for a picture-maker by photography to know more on this side the art than how to use the materials supplied to him by men whose business and interest it is to supply them of the best. Fancy a great artist now-a-days trusting himself to paint anything of greater value than an experimental picture in home-made colours! Reynolds tried experiments, and his posterity suffers.

ANGLER: Then photography is not a science?

PHOTOGRAPHER: No. Photography is the art of using certain materials to produce certain results. The invention and production of these materials is science. Art and science are far apart; this was well recognised at the late Paris Exhibition, where an enormous space, occupied by the industries, natural products, and mechanical appliances of the whole world, intervened between them.

PAINTER: We are not safe yet as regards the permanence of our colours. There is another side to the question. The earliest oil painters made their own colours, and their work stood. See the wonderful Van Eycks in the National Gallery, which are as fresh as they were 400 years ago. Notice also, while you are about it, the exquisite finish of these pictures. There was no impressionist nonsense in those days to advocate the beauty and naturalistic effect of scamped work, manufactured to suit a passing market. Then, on the other hand, look at Turner's pictures; he bought his colours, and the works of the greatest landscape painter of any age are perishing.

PHOTOGRAPHER: We can match you even in fading, modern and ancient, as in nearly all else. Photographers made their own albumenised paper at first, and their works stood; they buy it now, and yesterday's print fades. But that does not affect my argument, which was that photographers can buy their materials better than they can make them, and that it was as legitimate to do so as for painters to buy their colours.

PAINTER: You suggested there was a parallel between painting and photography?

PHOTOGRAPHER: There is a great analogy between the two arts, so great that it is worth while to follow it out. The early painters, as I have said, had to make their own paints, or have them made in their studios; they do not do so now. The early photographers had to prepare their own materials, but there is no necessity now; it should be a distinct business. Raphael, Leonardo, and Michael Angelo, or their assistants, ground the colours used, and prepared their own walls and canvasses, but we don't hear that Leighton, Millais, or Watts do the same thing; they prefer to send to Newman's or Winsor and Newton's, and get the work done better without bothering their heads about it. It is no more necessary for an artist-photographer to prepare his own plates than it is for a painter to prepare his canvass. If he does, his work is sure to suffer, for he cannot make them so well as a man whose business it is. I grant you that admirable plates are made by amateurs, but are they not rather, in this capacity, amateur chemists than photographers?

PAINTER: You are making rather sweeping assertions.

PHOTOGRAPHER: Yes. I am stating the case boldly. Photography is so often thought to be a matter of scales

and weights, and $x-y$, and $f/32$. But I think the time has come when photography proper should begin where chemistry leaves off. I could carry the parallel much further, but will content myself at present with one other, one that will perhaps startle you, but I will state it without insisting on it. There is the sculptor and the photographer. Taking into consideration their methods of proceeding only, I do not know which is the greater artist.

PAINTER: Oh! come!

PHOTOGRAPHER: I thought I should astonish you. Both artists—I mean in the higher phases of both arts—imagine their subjects. They both work out their subjects by aid of a machine. The pointing machine of the sculptor is quite as mechanical as the camera, and the work is nearly always done by assistants; now the camera for the highest work is not left to operators. When the statue is wrought out by assistants by aid of the machine, the sculptor goes over it and gives a finishing touch here and there. In fact, he does the retouching!

PAINTER: You have forgotten one very important fact. The sculptor makes a model of clay. This is really the important part of his work, where the imaginative faculties are exercised.

PHOTOGRAPHER: I am not beaten yet. One is so apt to judge of an art by what one sees every day. It is not the policy of an artist to show you all the little difficulties he encounters, and the method he uses on his way to his perfected work. You see an amateur unlimber and shoot without much thought, and think that is how all photographs are made. But I have seen different to this. I have seen a dozen sketches, some of them completed drawings, and perhaps a dozen or twenty small preliminary photographs of parts or variations, all tending to the production of one picture, to be executed by photography. Is that good enough?

PAINTER: That never struck me before, but it seems plausible—only plausible, mind you. But, oh! the difference in results!

PHOTOGRAPHER: Matters of degree, not principle. Of course, photography cannot produce a statue, any more than a sculptor can give you a landscape, although both try sometimes and fail. We all have our limits, and should respect them. There is still too much attempt to make the productions of one art look like those of another. We are emerging from the age of sham, and things are coming right, yet there is still a desire with some photographers that their work should be taken for drawings, or engravings, or etchings, or anything but photographs.

PAINTER: The sculptor puts life and soul into his inanimate statue; the retoucher takes out any life there might have been in the photograph. Your simile is strained here.

PHOTOGRAPHER: It is very clever of you to say that. It is, perhaps, new to you to compare a first-rate artist with a blundering photographer, but it is an old dodge. There are few of the former, and many of the latter. I, of course, only intended a sculptor and retoucher of equal skill in their respective arts. Let us for once reverse the usual course, and take the mean controversial advantage of comparing the bad sculptor or painter, of which there are many, with the best photographers, of which there are few. Then photography will come out as a fine art, and sculpture and painting as mechanical trades. Anyhow, I hope I have convinced you that it is no more necessary for a photographer than a painter to go deep into chemistry, and that you may become a complete photographer without becoming a complete chemist. We should, of course, be very grateful to those who have invented tools, materials, and processes for us, but it is the business of the artist to take the goods

the gods have provided, and show their gratitude by putting them to the best use.

ANGLER: This conversation reminds me of that between a Fisherman, a Hunter, and a Falconer, in Walton's "Angler," a small copy of which delightful book I have in my pocket. I would that I could be your pupil as Venator was that of Piscator. I have the advantage of Venator. He was a raw recruit to fishing, while I have had some little experience of photography, and know that you must look at the focussing screen and not through it. I have several friends who practice the art, and have seen their operations.

PHOTOGRAPHER: It is difficult to find anyone who is entirely ignorant of the elements of the art, but there is much to learn. In the words of your master, "Tis a match, sir." I also am a student of old Izaak, not that he knew, or professed to know, much about the only part of the Angler's art I care for—fly-fishing. But I enjoy the dainty quaintness of his style; his simplicity; his delightful faith in the wonderful stories of fish he gives, and the astonishing ignorance of natural history of little more than two hundred years ago makes this a book for half an hour and for all time. We are now nearing our station, and while our friend the painter loses himself in the mysteries of tone and tint, we will hold our first discourse on the banks of the stream. You will not find much use for your rod to-day, but put it together, and if the fish begin to rise we can break off, and you can tempt them with your lures, and I, peradventure, may have a chance of a shot at you struggling with a lusty trout.

(To be continued.)

Winter Work.—XIV.

By T. C. HEPPORTH, F.C.S.

CLOUDS IN LANTERN PICTURES.

No one will deny that a lantern picture is often improved by the addition of clouds, and if these happily appear in the one negative so much the better. Sometimes clouds are so buried in the over-dense sky of the negative that it is a difficult matter to get at them. Sometimes local reduction may be advisable, and if the worker is afraid of doctoring his negative with chemicals, after he has looked upon it as finished and done with, he may with advantage adopt that mechanical mode of reduction which is possible by rubbing with old linen moistened with alcohol. (This method will, by the way, often unearth the details of a church window, which before had been lost in halation.) If, however, there are no clouds in the negative, and a large expanse of white is the printed result, we must adopt other means to remedy the defect, for defect it is. In the case of a snow scene, or, indeed, any picture where there are brilliant high lights, the sky can be toned after printing by exposing it to light, shielding the rest of the picture. It can even be done after partial development—the redevelopment finishing the landscape and toning the sky at the same time. But when actual clouds are requisite, a separate cloud negative must be used. The work is by no means as easy as it is in the case of a silver print on paper, for the reason that so much judgment is required during the exposure, first of the landscape, and then of the sky negative, the actual results not being apparent until development. Some advocate the printing of the sky on a separate plate, and then making that plate the cover glass of the finished slide. But the difficulties are increased by such procedure, for the image of the clouds is reversed. I believe that the best plan to adopt is as follows. First of all select the sky negative for

use, taking care that the clouds are lighted from the proper direction. (To make all safe, it is as well to make a trial silver print from the combined negatives, in order to see if one is really fitted to the other.) Next fix a 3-inch mask on the glass side of each negative, so that the lantern plate can readily be removed from one to the other, and will be in register for both. Measure the height of the horizontal line on the landscape negative, and if it be, say, an inch and a half from the bottom of the paper mask referred to, make a pencil mark at that height on the mask which is affixed to the cloud negative. Now give the necessary exposure to the landscape—preferably by gaslight, as then there is plenty of latitude—and then (by ruby light) remove the plate from its frame and place it in another frame, on the cloud negative. Fasten it up securely, turn the frame over, and note the position of the pencil mark on the mask. Now turn up the gas once more, and during exposure shield that portion of the plate below the pencil mark with a piece of card. Keep the card in motion well above the mark so as to get a graduated tint, and after due exposure turn down the gas and prepare for development. Be sure to have at hand a ten per cent. solution of bromide, with a camel-hair brush in it ready for use. It may not be wanted, but if it should be, it will be wanted badly. For instance, the sky may soon show that it has received more than sufficient exposure, while the landscape has not had enough and hangs back. In such a case, rinse the sky portion of the plate, and paint it over with the bromide solution; then redevelop. But a little practice with this method of double-printing will render such dodges unnecessary, for the operator will soon acquire the habit of exposing his plates to suit the needs of both negatives. But when all is said and done, the best effect is to be obtained when the one negative is adorned with natural clouds. Very often in this climate clouds are more common than is desirable, especially as they generally hold a remarkable quantity of rain; but on the sunny days vouchsafed to us the clouds are welcome, from an artistic point of view, at any rate. In lately looking over a set of instantaneous seascapes taken last autumn on the south coast, I was surprised to find that a cloudless sky was the exception rather than the rule. One more word. Do not lose the opportunity of securing cloud negatives, for they can be obtained on days when other photographic work is next to impossible. At the same time, make a note by compass of the direction in which the camera is pointed, and the hour at which the negative is taken. Similar notes regarding landscape negatives will enable the operator to wed any two without a sacrifice of truth. Thus, supposing, for the sake of illustration, we have a picture of Shakespeare's Cliff, taken at 5 p.m., in August, from the Admiralty Pier, of which it is due west. A westerly sky negative taken in the same month, at the same time, can be associated with it without hesitation. The question of altitude of clouds need not trouble us if the camera be always kept level, and the horizontal line be made to register in both landscape and cloud negatives, as I have already pointed out.

Most instantaneous shutters are so constructed that they will give a much shorter exposure to the sky than to the landscape beneath, and if clouds be present they will be reproduced in the negative in a printable form. A shutter for the express purpose of producing pictures adorned with natural clouds was invented some time back by Mr. Leisk, and is sold, I believe, by Messrs. Marion. But I fancy that it was adapted more for seascape, where there is an unbroken horizontal line, than for more general work. In my own practice, when I am anxious to secure cloud effects I use a shutter which was designed and brought out about twenty-five years back by Mr. Dallmeyer, but which, like

many other things, has been of late years revived and re-introduced, in a slightly altered and perhaps improved form. In its modern dress it is known as Place's shutter, and its chief merits lie in its simplicity, and in the control which the hand can exercise over it during exposure. It consists of a frame having two grooves, in each of which slides an ebonite plate. These plates are connected together by cords which run over a small roller at the top of the contrivance. When one ebonite plate is down in front of the lens, the other is raised in its groove out of the way. By a string attached to this upper plate it is pulled down, and as it descends the other plate rises and the exposure is made. The duration of exposure, and the amount of extra time devoted to the exposure of the foreground, is therefore directly under the control of the hand which pulls the string. I have found it convenient to keep this shutter on my lens during the whole of a day's tramp with the camera, for, as will be evident, it is serviceable for any kind of subject which is likely to be met with, from that which requires a quick exposure, to the many seconds wanted when the camera is beneath the shade of thick foliage.

There is one thing to be guarded against in the use of separate cloud negatives, and that is the tendency to use them for every picture without consideration. In our exhibitions a large proportion of the works hung are often spoilt by being wedded with incongruous clouds, and many amateurs seem to think that if there is only a little patch of open sky it must have a bit of cloud pitchforked into it somehow. This is a mistake. In landscapes containing plenty of subject, and more especially in those in which there is a tracery of foliage against a large portion of the sky, the picture is the better for not being tampered with. A sunlit landscape photograph is very often spoilt by association with a dark cloudy sky through which in nature no sunlight could possibly penetrate. I may mention in concluding this portion of my work, that an excellent article on printing-in clouds in lantern slides from the pen of Mr. Lyonel Clark appeared in the October (1889) number of the *Photographic Quarterly*.

(To be continued.)

Photographic Printing Processes.

No. VII.

By ANDREW PRINGLE.

PRINTING ON "PLAIN" PAPER SALTED.

We have now reached the process which bids fair to be the most popular of all "silver-printing" processes, and there is no doubt that the plain paper has claims on the attention of those who wish to print in silver for pictorial purposes. Albumenised paper has certainly its strong points—a delicacy of detail, a smoothness of surface, and favour with a large mass of the general public. But why the albumen process, with its glossy surface and strange unfamiliar tones—for the tones were unfamiliar when the process was new—held sway so long and so completely, I never could understand. Very few workers until recent years ever seemed to wander away from the beaten track of albumen, but the last year or two has seen a marked change, a very conspicuous waking up to the merits of plain paper. The plain paper process is, of course, older than the other, but we have now reached a very decided *renaissance* of plain paper printing.

It seems to me that if we accept the plain paper as our standard printing process we must also modify our tones, for most of our readers will probably agree that what we

consider the finest tones on albumen paper are anything but fine on plain paper. The circumstances, indeed, are different, for the fact that the image in one case lies in a glossy stratum above the surface of the paper, and in the other case lies in the texture of the paper, makes a great difference in the kind of tone we require. The dark rich warm *purple* tone so much valued in albumen paper looks crude, flat, and dismal on plain paper; the fine details are lost in the fabric of the paper. The warm *brown* tone aimed at by other workers on albumen looks almost offensive on plain paper. But plain paper has browns peculiarly appropriate to itself, and if we can get tones approaching to black we have a great power in our hands for producing prints that will recommend themselves to the artistic eye. I spent a very long time myself in efforts to get really black tones on plain paper, but my efforts were fruitless. I got many tones intermediate between brick-red and very dark brown, tones such as are sometimes shown now as new discoveries, but I never got what I wanted. The fact of the matter is that so long as we begin to tone an image with any redness in it we shall never, so far as I know, be able to tone it to a real black, such as the tone of a good engraving.

The very first matter we have to consider with a view to black tones is the sizing of the paper. It is now pretty generally understood, and my own experiments convinced me that the best size for paper to be salted and silvered is arrowroot; at all events, arrowroot ought to constitute the greater bulk of the size. Iceland moss is sometimes recommended, and I have used it with satisfactory results. The choice of a sizing solution should depend on the kind of paper to be used, an open-grained paper requiring naturally a more viscous (or strong) size. The object, of course, is to prevent the image being entirely lost in the paper. If the size is too thick, the image may be too much on the surface, and there is also an evident difference between the result of floating the paper on the solution and immersing it entirely in the size. Some authorities float, others immerse the paper. If my size is thick, I float or brush on the solution; if thin, I immerse the paper entirely.

Thin Saxe or Rive paper may be floated on one of the following solutions:—

I.				
Gelatine, any pure sample	..	..	20	grs.
Arrowroot	..	..	40	"
Ammonium chloride	..	..	160	"
Water	..	..	20	ozs.
II.				
Gelatine	..	..	20	grs.
Ammonium chloride	..	..	60	"
Water	..	..	20	ozs.
(Hardwick).				
III.				
Sodium chloride	..	..	25	parts.
Citric acid	..	..	1	part.
Irish moss	..	..	5	parts.
Gelatine	..	..	2	"
Albumen	..	..	50	"
Water	..	..	200	"
(Schölzig).				

Nos. 1 and 2 will be suitable for the ammonio-nitrate bath. No. 3 will be more suitable for a plain silver nitrate bath. It must be understood that paper ready sized and often suitably sized can be got in the market; for instance, I believe that paper sized and salted as No. 3 can be obtained from Mr. Schölzig. Ready-sensitised plain paper can also be obtained from several sources; Messrs. Watson and Sons, High Holborn, keep it in stock, also I believe Mr. Schölzig. I have myself used paper from both these

sources, and both brands of paper gave me good results. And Mr. Lyonel Clark has lately given instructions for salting and sensitising plain paper. As Mr. Clark's experiments have so lately appeared in the photographic papers, and as I have not yet found time to repeat the experiments, I do not propose to reiterate what has already been so well said on this particular subject.

But if the reader proposes to sensitise his own paper, he may use a 60 grs. nitrate of silver bath (silver nitrate 60 grs., distilled water 1 oz.), or better, in most cases, especially for black tones, he may use the Hardwick formula for ammonio-nitrate thus: Dissolve the full quantity of silver required in one-half the total quantity of distilled water. Then drop in very slowly, stirring all the time, strong liquor ammonia. At first a brown precipitate will be formed, but after further addition of ammonia the precipitate will begin to be redissolved, and at last a point will be reached when the whole of the precipitate is just redissolved; after this a crystal of silver nitrate may be added, or a few drops of a solution of silver nitrate till there is a very slight cloudiness. Then add distilled water to the required measure. Or the method quoted by Mr. Lyonel Clark may be adopted, or lastly, nitric acid may be added to the bath prepared by Hardwick's process till the alkalinity of the original is considerably lessened, or nearly neutralised. So far as result is concerned, I cannot pretend to have detected any notable difference between these processes, but in keeping quality of the paper there will be found a great difference. The more alkaline, the bath is, the less time the paper will keep. Paper sensitised on the plain ammonio-nitrate bath will not keep for a day; the addition of nitric acid improves the keeping qualities in proportion, perhaps direct, to the quantity of acid added. If the paper after being floated on the plain silver nitrate bath be floated on a 10 per cent. solution of citric acid, the paper will keep for a long time, but I fear the tones will not be improved, certainly the black tones will be more difficult to obtain.

The ammonio-nitrate solutions should be applied to the paper with a glass rod; pour a pool of the solution on the centre of the sheet to be sensitised, then as rapidly as convenient spread the solution equally over the paper with the rod. If we float our paper on an ammonio-nitrate bath, the bath will very soon become useless.

Before proceeding to the question of toning, I wish to say that so far as my somewhat extensive experience of this process goes, I do not find that the process of sensitising makes any notable difference in the results. I find I get practically the same tones on Watson's and Schölzig's paper as I used to get on my own. And Mr. Clark's tones, though produced by a process I never tried, simply reminded me of my own efforts of past years, so far as appearance goes; Mr. Clark's results may be more permanent than mine. There is no doubt that the process of that gentleman deserves study. I am at present trying a process of toning new to me, but not in any way originating with me; it promises well, and I hope to give some account of it in my chapter on toning plain paper.

(To be continued.)

MESSRS. HINTON AND Co. have introduced a novelty which will be welcomed by all lantern-slide makers. This is a perfectly colourless limpid varnish which can be applied to the film without the aid of heat at any stage of the process. The gelatine men will welcome this innovation as a means of protecting their work against the effects of damp and mildew, and the wet plate and collodio-bromide workers will find the value of a medium which will so effectually protect their tender films from mechanical injury.

Competitive Papers.—No. XII.

ENLARGEMENTS.

First Prize—REV. T. PERKINS.

The general principles upon which the possibility of making enlargements depends can be best explained by considering the case of a convergent lens in its simplest form, namely, a double convex lens made of a single piece of glass with surfaces of equal curvature, such as is represented in the first figure.

Let AB be the lens, C its centre, PQ an object in front of it emitting or reflecting light. Let PA, PB be two rays proceeding from P and passing through the top and the bottom of the lens; these after refraction by the lens will converge to a point P', such that P, C, and P' will all be on the same straight line. An image of P will then be formed at P'; similar rays proceeding from various points in the object PQ will converge to various points along P'Q', so that an image of the whole object PQ will be formed at P'Q'. It is evident from the figure that the height of the object and its image will be proportional to CR and CR', their respective distances from the optical centre of the lens. It is found that as PQ is moved nearer to the lens, P'Q' moves further away from it, and as PQ moves away from it P'Q' moves nearer to it, until when PQ is so far off that the rays PA and PB are practically parallel, the point R' moves up to a certain point F', which is called the principal focus of the lens; a point F situated on the axis on the other side of the lens, so that CF is equal to CF'

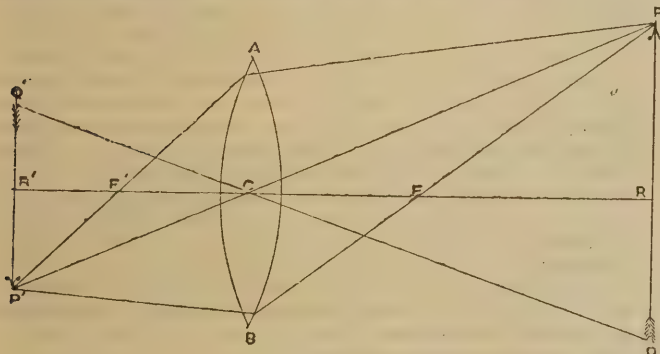


FIG 1.

is also called the principal focus. R and R' are called conjugate foci. If the object PQ were placed between F and C, the rays after refraction by the lens would no longer converge, and consequently no image would be formed, but as long as CR is greater than CF, a real image will be formed on a screen suitably placed behind the lens.

It is found that the positions of the conjugate foci are connected by the following relation.

$$\frac{1}{CR} + \frac{1}{CR'} = \frac{1}{CF}.$$

If we denote CR by u , CR' by u' , and CF by f , the formula may be written:

$$\frac{1}{u} + \frac{1}{u'} = \frac{1}{f}.$$

When a view is being taken, u is considerable compared with f and u' , consequently the image is small compared with the object; but when u is made equal to $2f$ the formula shows that u' will also be equal to $2f$, and consequently the image will be equal in size to the object.

If, therefore, a negative is placed in front of a lens attached to a camera, such that the front remains fixed in position, and the focussing is done at the back, we shall, if the distance of the negative from the lens exceeds twice the focal length, get a reduced image on the ground-glass, and the image will increase in size as the negative is moved nearer to the lens if the focussing screen is

drawn away from it so as to keep the image always sharp. When the distance of the negative from the lens is equal to twice the focal length, the image will be the same size as the object, and if the negative is moved nearer we shall get an enlarged image, provided that we move our focussing screen back so that the image on it remains sharp. If we wish to form an image n times the size of the object, we shall have to make u' equal to nu , and the formula will take the form

$$\frac{1}{u} + \frac{1}{nu} = \frac{1}{f},$$

from which it follows that $u = \frac{(n+1)f}{n}$. This shows that CR

must always be greater than CF, as previously stated.

If it is required, for instance, to enlarge a quarter-plate negative up to whole-plate size, which is twice as long and twice as broad, 2 must be substituted for n , and the proper distance in front of the optical centre of the lens to place the negative is

$\frac{3f}{2}$. All then that theoretically is required for enlarging is some arrangement by which the lens may be fixed, and the negative can be placed in any desired position with its plane perpendicular to the axis of the lens, and the sensitive medium on which the enlargement is to be made may be shifted nearer to or further from the lens until sharpness is obtained, and then held firmly in position with its plane perpendicular to the axis of the lens. It is, of course, absolutely necessary that no light should fall on the sensitive medium, save that which comes through the lens, and it is desirable that as little light as possible, save that which comes through the negative, should pass through the lens. Arrangements more or less complicated for securing these necessary conditions are used, but before describing any of them it will be well to say a few words about the lens used in copying. Any lens that has a sufficiently wide angle to embrace the negative to be enlarged when in the desired position will give an enlargement, but it by no means follows that all lenses will give equally good ones, even though the lenses themselves be good. What is required is equality of illumination, great flatness of field, and entire absence of distortion. Depth of focus is of no importance; what we require is a lens that will represent a flat object on a flat field. Single lenses must be rejected, on account of their curved fields and distortion of straight lines; and a doublet must not be used so as to embrace a wide angle, otherwise we shall not get equality of illumination. Perhaps the best lens that can be used for the purpose is one of Dallmeyer's triplets, the focal length of which is about twice the length of the negative to be copied, with the tube reversed so that the larger lens is towards the negative; but if such a lens is not at hand, a rapid rectilinear of the same focus may be employed, and as with this the two lenses are symmetrical, no reversing of the tube is required; a lens of the same focus as that with which the original negative was taken is, theoretically the best. But as increased length of focus in the lens necessitates a greater distance between the negative and the sensitive medium, we may sometimes be compelled by want of room to use a lens of shorter focus than we otherwise should employ. In enlarging a quarter-plate negative to whole-plate size, if we use a 4 in. lens the distance of the negative from the lens will be 6 ins., and the distance from the lens to the sensitive medium 12 ins., or 18 ins. in all; while if we use an 8 in. lens the corresponding distances will be 12 and 24 ins., or 3 ft. in all.

The sensitive medium on which enlargements are now most frequently made is bromide paper, but since "Enlargements on Bromide Paper" is the subject of a separate competition, we will confine our description to a method by which an enlarged negative on a glass plate or film may be made, from which positives may be printed by any of the usual processes.

There are two ways in which this negative may be produced—

(1) A positive transparency may be made from the original small negative by contact printing, and from this transparency an enlarged negative may be made; or (2) An enlarged transparency may be made from the original negative, and from this a negative may be obtained by contact printing. Each method has its advantages. The first requires only one large plate, an advantage on economical grounds, yet it has the disadvantage that any accidental defects on the plate on which the transparency is made are enlarged, as well as those due to flaws on the original negative, whereas if we employ the second method only those defects that are on the original negative are enlarged, and as plates are

* In mathematical books it is usual to take account of the sign of u and u' , counting them positive if measured in one direction, negative if measured in the other, and when lenses of different forms are discussed it is needful to pay attention to this, but as we are dealing only with convergent lenses so used that the object and image are on different sides of the lens, we may use the formula given in the text.

seldom entirely free from flaws, the second method is on this account the better when circumstances allow it to be employed.

The simplest method of enlarging by daylight is to use a camera. It must be one which focusses at the back, and has a long body; a wooden-bodied one has the advantage of rigidity. When it is desired to lengthen it still further, a rigid box, with a flange at one end to carry the lens, and at the other a slide fitting into the grooves of the camera which usually take the sliding front, may be attached to the front of the camera. The end opposite to the lens must, of course, be removed. The camera should be capable of being screwed firmly in any desired position to a long plank of wood; along the sides of this

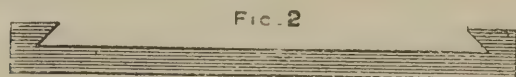


FIG. 2.
FRONT VIEW OF BASE BOARD.

should be fitted two strips of wood as shown in fig. 2, with a rebate so as to allow the sliding piece, shown in fig. 3, which holds the negative carrier to be moved nearer to or further from

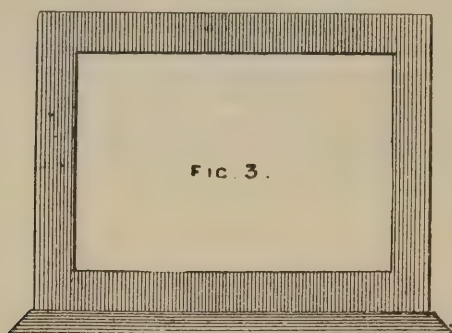


FIG. 3.
FRONT VIEW OF SLIDING FRAME HOLDING CARRIER.

the lens. The carrier should be provided with springs similar to those used in magic lanterns (see fig. 4), to allow the frame carrying the negative or transparency to be shifted horizontally

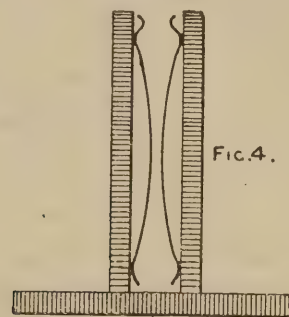


FIG. 4.
SIDE VIEW OF SLIDING FRAME HOLDING CARRIER.

or vertically, so that any part of the picture to be copied can be brought opposite to the centre of the lens. A black cloth, supported if necessary on strips of wood, may be thrown over the camera and the top of the negative-holding frame, so as to cut off all light from the lens save that which comes through the picture to be copied. To get even illumination behind the negative or transparency, one of two plans may be adopted. The board may be tilted so that the axis of the lens may be placed at such an angle to the horizontal that no terrestrial objects cut off the light of the sky, or when this is not possible, a looking-glass may be fastened outside the window or to the front of the board, which must then be placed so that its front is outside the window. The board is now used in a horizontal position, and the looking-glass is inclined at an angle of 45° to the vertical, so that it reflects the light of the sky in the neighbourhood of the zenith through the picture in the frame. Care must be taken that the looking-glass is sufficiently large to subtend an angle rather

larger than the lens is used to include. A sheet of white card may be used instead of the looking-glass, but the light reflected by, or, to be more accurate, scattered from it is not so strong as that reflected from the looking-glass. The plate or film on which the enlargement is to be made is exposed in an ordinary dark back in the same way as when a direct negative is taken. It may often be necessary to make a trial exposure to test the quality and intensity of the light; a small plate, the rapidity of which compared with the large one we intend to use is known, will be all that is needed for this.

The method above described has the advantage that it may be employed in any ordinary room without any arrangements for darkening it, a thing which would be necessary if no camera were used. A room with a north aspect is the best, as no direct sunlight should fall upon the negative or positive transparency while it is being copied. Negatives which have plenty of detail and with sharp definition are the best for enlarging; it is well also that they should not be over-dense. The development of the enlarged negative will be conducted much in the same manner as if it were taken direct.

It will probably always be a disputed point as to whether an enlargement from a small negative or a direct large negative produces the more pleasing prints. No doubt it often happens that many small or moderate-sized negatives, which give pleasing prints of their own size, do not bear enlarging, on account of unsuitability of subject or want of sharpness, or from other causes, but the enlarged picture has certain well-marked advantages over large negatives taken direct from nature, for large negatives must be taken with longer-focussed lenses, which possess little depth of focus, so that unless very small stops are used, if the view is one that has objects at various distances, some parts will be much out of focus, while others will probably be sharp; whereas a small negative, taken with a shorter-focussed lens, even if comparatively large stops are used, will be much more uniformly sharp, and this sharpness will be equally softened all over the picture in the enlargement, which, in my opinion, is far more pleasing than when one part of a picture is decidedly sharp and the rest much blurred. Enlargements, at any rate of instantaneous pictures, have an advantage over large ones taken with the same exposure and correspondingly large stops. Moreover, as a matter of convenience in the field, it is an advantage to have only a small camera, half-plate or quarter-plate, to carry, and then to enlarge two and a half or four diameters respectively, rather than to have to carry a camera capable of taking a 16 by 12 negative direct.

Reviews.

The British Journal Photographic Almanac, 1890.

This publication has now been going on for so many years that photographers regard it with much the same feeling as they do the other accessories of Christmas time. It has been gradually growing bigger and bigger, until now it forms a portentous volume of 900 pages. It is only fair to say that two-thirds of the volume are devoted to advertisements, but such a collection represents a valuable encyclopædia of photographic apparatus—which cannot fail to be useful to all workers, both amateur and professional. Its contents are, as usual, very varied, and amongst those things which may prove most useful is a good dodge for making an adjustable vignetter, which has every promise of being most effective and is easily made. Eikonogen and hydroquinone are there in various shades of light, and one begins to wonder, after hearing all that is claimed for the former, whether we shall not soon be able to dispense with the exposure of the plate altogether! There is a good argentic bromide print of Mrs. Stirling (spelt with an *e*, by the way), and there are also specimen prints of photo-etching on glass, and of photo-mezzotype, both good of their kind. Mr. Dallmeyer gives a very simple method of arriving at the focus of a lens, and Major Nott gives timely hints on the manipulation of stripping films, whilst Mr. William Ouin makes the suggestion of an Institute of Photography, which subject, however, was dealt with in our columns some considerable time ago. Generally speaking, the articles are of interest to the photographer, and there are many hints which will be found useful, not only to the amateur, but also to the professional worker.

Our Contemporaries at Home and Abroad.

At, in its January number, gives the first of a series of articles on "Photography," dealing with it from both a theoretical and practical point of view. The articles are by Mr. Walter E. Woodbury, whose acquaintance with his subject is sufficient guarantee that the papers will be all that could be desired. The magazine also contains serial stories by G. Manville Fenn and Alice Price, and other interesting and useful matter.

The *American Journal of Photography*, in an article on "Photographic Theorising," says:—"The old conflict of theory *versus* practice is seen every day in an art like photography. We constantly meet with photographers who make excellent work, and yet are so ignorant of the principles involved in the production of the said work, that it seems wonderful they should be favoured with so fair a share of success. And it is no less wonderful, on the other hand, that men who have been blessed with every opportunity of acquiring a fine scientific education, should so often be wanting when they take up an art as practical in its nature as photography." There is a charming picture of a child posed as a statue, and other articles on "Photographing the Baby," "Fading of Silver Prints," "Brilliant Prints," "A New Developer," etc.

The *Journal of Microscopy and Natural Science* contains a series of reproductions of photo-micrographic subjects, with descriptive letterpress of a most instructive and interesting character. It quotes the following:—"M. Duchesnes, writing in the *Bulletin* of the French Photographic Society, very emphatically insists on the desirability of the microscopical student making use of photography in his work, and points out how well suited certain diatoms are for first trials in micro-photography. He especially refers to the siliceous skeleton of *Amphipleura pellucida* as an example of a diatom having remarkably delicate structure, and serving well as a test-object to measure the success of photographic illustrations."

The *British Journal of Photography*, in an article on "Salted Paper Redivivus," says:—"It will be seen that the conditions under which the old pictures were produced differ widely from those existing under the more modern system of working, and this will fully account for the difference in the results obtained. If there were really any 'lost art' in making matt-surface silver prints, it must be sought for in the conditions under which they were produced, and not in mere formulæ." Other articles are on "Plate Etching," "New Benzoline Limelight," "Coloured *au Naturel*," "Actions of Mercury on Glass," and "Action of Light on Silver Chloride."

L'Amateur Photographie (Paris) announces a prize competition for negatives of all kinds, the cut-sizes of the plates being 9 by 12, and 18 by 24. It also contains the programme of a series of lessons on "Photography and its Application to Various Industries," to be given by M. Ch. Gravier, which will include lessons on the various reproducing processes, enlargement, reduction, and colouring, and upon which notes will be given in the paper.

The *Magic Lantern* has the following:—"At a recent lantern entertainment given at New York, the audience were shown a slide which was of a particularly interesting character. While the meeting was in process, a flash light picture was taken of the audience, which, after its development, and a transparency made from it, was projected on the screen in a short space of time, much to the delight of the audience." It also contains articles on the "Opaque Lantern," "New Limelight," "Lantern-Slide Mounting," "Lantern-Slides and Slide Making," etc.

The *Naturalists' Record*, a very interesting little periodical, devotes some space to photography, and under that heading says:—"We are very pleased to notice that through the unwearied efforts of the Editors of the AMATEUR PHOTOGRAPHER the establishment of a Photographic Institute will shortly be 'the talk of the town.' The matter has made so much progress that ere we reach January, 1891, 'The Photographic Institute' will be really established in all probability." It also announces that in its next issue will appear "Hints on Photography for Naturalists," by Dr. Emerson.

The *Photographic Art Journal*, we are pleased to see, is waking up, and puts forward a programme for the New Year, which, if

carried out in its entirety, will make the paper one of the most interesting photographic publications of the day. In the introduction to the new volume it says:—"Holding firmly to our announced profession of devotion to the 'interests of Photography as a Fine Art,' we give prominence to such contributions and articles as have to do particularly with its artistic aspect; and this with the avoidance of embittered controversy, which has of late done so much to cast ridicule upon interesting and important matter discussed in photographic circles." Other articles are on "Accessories," "Halation," "Instantaneous or Time Exposures for Figure in Landscape," "Lyonel Clark's Platinum Toning Process," etc. The two illustrations of the North West from water-colour drawings are hardly up to the standard of an art journal, and we might suggest that in a monthly the articles should be as complete as possible.

The *Photographic News* in its first article, dealing with matters "Prospective and Retrospective," says:—"An outcome of such intercommunication is the discovery that a wide-spread desire exists for practical instruction in the photo-mechanical processes, and suggests that the time has arrived when classes for the practice of Collotype, Woodburytype, etc., might very well be formed in one or more of our technical institutes." Other articles are on "Photographic Tourists' Baggage," "Intensifying Collodion Negatives with Hydroquinone," "Lewis Morris Rutherford," "Ornamental Printing in Photography," "Photographing Winter Scenes," "Oscar Gustav Rejlander," etc. The number also contains a copious index to the last volume.

The *Photographic Review* in an article on "Stereoscopic Photography," says:—"Another great, if not fatal, hindrance to the continuance of a reinstatement of portrait stereoscopic photography, was the introduction of the practice of retouching. The stereoscope is in some sense an instrument of precision, and may be used as such to distinguish trifling differences between two otherwise similar drawings or other designs. A spot or other small marking which may pass unnoticed in a single picture, becomes evident when another picture, similar in all respects but the mark in question, is put beside it, and the two images are, by means of the stereoscope, superposed to the observation of the spectator." There are other articles on "Practical Experience as to Magnesium Lighting," "Argentometers," "Mountants," etc.

Photographic Scraps contains an article on "Enlargement," and says, amongst the scraps:—"It is becoming understood by photographers of all grades that technical excellence of negatives standing by itself is of little avail; it is only when this technical excellence is combined with artistic merit that a good picture results; and of the two requisite qualities, perhaps artistic merit is the most essential."

Photography, in a letter on "Softness in Photography," by Fred H. Evans, concludes with the following extract from "Sylvie and Bruno," by Lewis Carroll, an old amateur. The scene is a picnic at an old ruin, a would-be art critic is boring the company with his platitudes:—

"'Do you observe' (such was the phrase with which the wretch began each sentence), 'Do you observe where those trees slope down the hill' (indicating them with a sweep of the hand, and with all the patronising air of a man who has himself arranged the landscape), 'how the mists rising from the river fill up exactly those intervals where we need indistinctness for artistic effect? Here, in the foreground, a few clear touches are not amiss; but a back-ground without mist, you know! It is simply barbarous! Yes, we need indistinctness!'"

"The orator looked so pointedly at me as he uttered these words that I felt bound to reply by murmuring something to the effect that I hardly felt the need myself, and that I enjoyed looking at a thing better when I could see it."

"Quite so," the great man sharply took me up. "From your point of view, that is correctly put. But for anyone who has a soul for Art such a view is preposterous. Nature is one thing; Art is another. Nature shows us the world as it is; but Art—as a Latin author tells us—Art, you know—the words have escaped my memory—"

"Ars est celare Naturam," Arthur interposed with a delightful promptitude.

"Quite so," the orator replied with an air of relief. "I thank you. Ars est celare Naturam—but that isn't it!" And for a few peaceful moments the orator brooded frowningly over the quotation."

There are also articles on "Shutters," "Darkness in Skies in a Photograph, and How to Measure It," "Photographs Sent by Telegraph," etc.

Wilson's Photographic Magazine (New York) has a frontispiece of nine small phototypes of mayors of Philadelphia since the Consolidation (1854 to 1887), and also a good reproduction of an interior. In its New Year article, our contemporary says, and we re-echo the sentiment:—"Every one of our readers—the humble and obscure ones as well as the most prosperous and noted ones—has it in his power to do something for the good

and growth of all the others. Let us all try, then, harder than ever before to make photography honour us and help us one and all. Let us have a care too, that it does not outgrow and get beyond any of us." The Magazine also contains a large number of interesting and useful articles, including, "How to find the Focal Length of a Lens," "Hints for the Printer," "On Bromide Enlarging," "Single Chapters on Practical Photo Chemistry," and "Enlarging Processes."

The *Studio* (New York) enters on a new series with the December number, and is a most interesting and admirably got-up magazine. It contains a splendid etching of "Venus and Juno," from Barye's Candelabrum, also smaller illustrations of Barye, and his "Lioness," "Candelabrum," "The Sitting Lion of the Tuileries," "Tiger-Devouring Crocodile," and others. There are also a large number of articles on art subjects.

Societies' Meetings.

ABNEY CAMERA CLUB.—At the last meeting of the above Society, held on January 3rd, Mr. Flack gave a paper and demonstration on "Bromide Printing." At the end of a very instructive paper several pictures were exposed and developed, the light employed being the magnesium ribbon, and the developers ferrous-oxalate and hydroquinone. In spite of the lecturer's apparent preference for the latter, the general opinion was that the tone given by iron was the more pleasant of the two. During the evening a series of excellent bromide prints were handed round for inspection. A vote of thanks was moved by Mr. Hibberd, and seconded by Mr. D. W. Hill. The Hon. Sec. announced that on January 17th he had promised to read a paper on the "Chemistry of Photography."

BRIXTON AND CLAPHAM CAMERA CLUB.—On Friday, 3rd inst., the President (Mr. A. R. Dresser) gave a New Year's address to the members, advising them on the choice of apparatus, materials, and processes. To all except those going in solely for exhibition work, he recommended the purchase of a hand-camera, and the subsequent enlargement of the best pictures. He said that the recent introduction of roller films would obviate the question of plate-changing, without involving the troublesome operations connected with paper negatives. As a practical illustration of his remarks, he showed a number of bromide prints enlarged from hand-camera negatives, which were examined with great interest by those present. He also announced that he would give a prize for lantern slides, the competition to be on somewhat novel lines. The oxy-hydrogen lantern was then brought into requisition, and about 100 slides by Mr. Dresser were passed through, concluding a very pleasant evening's entertainment.

PECKHAM AND EAST DULWICH PHOT. SOC.—This Society, which was established last May, and now numbers over sixty active members, held its first annual exhibition and competition at Shawbury Hall, on Friday, the 3rd inst. The result of the Members' Competition was announced by Mr. Edwards (President of the Society), who remarked that owing to the excellence of the work the judges' task had been a difficult one. However, after careful consideration the silver medal had been awarded to Mr. Kelly, who was to be congratulated on his success. The next gentleman to receive honours was Mr. Rice; but he would mention with reference to the second and third prizes that the judges were quite at a loss on whom to confer them. They had, therefore, decided to grant another medal, which would be given to Mr. Dowling, who was one of the hardest-working members. Being a young society, they could not award all medals, but certificates would be conferred upon Mr. Kirby and Mr. Boydell, who was one of the youngest and most energetic members of the Society, and fully deserved the honour. The medals and certificates were presented to the fortunate recipients by Mrs. Horace Banks. An excellent lantern exhibition followed, when, owing to the uniform excellence of the slides exhibited, the judges decided to withhold the presentation of the contemplated certificates. Special mention should be made of a good exhibition of platinotype work, kindly lent by the President, Mr. Edwards.

SOUTHEAST AM. PHOT. SOC.—At a special meeting on Friday, January 3rd, the President, Captain T. Lamb, read a paper on a "Photographic Tour in Germany." Numerous views of the principal places of interest in Berlin, Dresden, Leipzig, Magdeburg, and Brunswick were shown on the screen. The most curious

objects in the street views were the "dog-carts" and "advertisement columns," whilst the chimney sweeps were noticeable for their "chimney-pot" hats. All the views were taken with a hand-camera on celluloid films. Captain Lamb was unable to get lantern plates anywhere in Germany, neither could he find such a thing as an optical lantern in any of the towns he visited. He found no difficulty in passing the Customs. At the close of the meeting Captain Lamb bid good-bye to the members, as his regiment was leaving in a few days for the Channel Islands. He trusted that the members would take up the photographic survey of Portsmouth with energy, and presented the society with a splendid album for mounting the prints. Mr. Fisher proposed, and the Hon. Secretary seconded, a vote of thanks to Captain Lamb for the deep interest he had taken in the society, and the valuable aid he had given in its formation, and also for the handsome album he had just presented. This was carried unanimously amidst general expressions of regret at the loss the society would sustain by his departure.

WEST SURREY AM. PHOT. SOC.—A meeting was held on the 1st inst. at Crichton Hall, Clapham Junction. The rules for the new library were approved, and the question of the second exhibition discussed and referred to the Committee. The evening was devoted to an exhibition of lantern slides, several of which were of an amusing nature. The Editors of the *AMATEUR PHOTOGRAPHER* kindly lent a parcel of about fifty, and they were much appreciated and admired. Mr. Davison also had a large parcel. The next meeting will be on the 15th inst.

A PHOTOGRAPHIC SOCIETY FOR LOUTH AND DISTRICT.

A DRAWING-ROOM meeting of the amateur photographers of Louth and district was held at the residence of Mr. S. F. Clarke, Ugate, on Friday last, to consider the advisability of forming a local photographic society.

Captain Ranshaw, who was in the chair, showed some very fine photographs by Mr. J. Gale, also some reproductions of that gentleman's most famous pictures.

There was also on view a large collection of over 400 photographs kindly lent for the occasion by the Editors of the *AMATEUR PHOTOGRAPHER*, including pictures to which prizes had been awarded in various competitions, landscapes, seascapes, views in the hayfield, pictures of animal life, etc.

Mr. Clarke exhibited photo-micrographs by which he secured a diploma at Vienna, and some duplicates of his lantern slides that won the gold and silver medals at the recent exhibition at Coventry.

On the motion of the Rev. C. W. Whisler, seconded by Mr. E. Hall, it was decided to form a photographic society for the district. A committee was formed to draft rules and to take necessary steps. The proceedings closed with a vote of thanks to the Chairman, to Mrs. and Mr. Clarke, and to the Editors of the *AMATEUR PHOTOGRAPHER* for their kindness in sending down the interesting collection of photographs on view.

Mr. Clarke was appointed Hon. Sec. *pro tem.*, and will be pleased to answer any inquiries from those in the district interested in the movement.

"Thursday Evenings" at the Camera Club.

BY ONE OF OUR STAFF.

THURSDAY, January 2nd, was a lantern evening, and there was a large attendance of members.

The chief part of the exhibition consisted of a selection from a number of slides kindly lent by the Birmingham Photographic Society. After these, other slides were shown by Mr. T. Charters White, general landscape and microscopic; Mr. Frank Howard, landscape and landscape with figure; Mr. Rooper Leventhorpe, pictures taken in North Italy; Rev. C. F. Fison, English country scenes; Mr. F. Howlett, a series of views on the Thames; and in conclusion a set by Mr. J. B. B. Wellington, of landscape and landscape with figure, etc. Some of Mr. Wellington's slides were especially effective and attracted much attention.

The subject for Thursday, January 16th, is "Plane Polarization of Light," when an address will be given by Mr. R. Tindall. The lecture will be illustrated. Meeting at 8 p.m.

Exhibitions.

KEIGHLEY PHOTOGRAPHIC EXHIBITION AWARDS.

PROFESSIONALS.

Landscape or Seascape—Silver medal, Lyd. Sawyer; bronze medal, J. P. Gibson; certificate, James E. Gould.

Subject Pictures—Silver medal, H. P. Robinson; bronze medal, E. W. Sutcliffe; certificate, Mr. and Mrs. Auckorn.

Architectural and Interiors—Silver medal, W. E. Henry; bronze medal, Thomas Scotton; certificate, R. W. Robinson.

Enlargements—Silver medal, J. N. Edwards; bronze medal, J. A. Faulks; certificate, J. A. Faulks.

Portraiture—Silver medal, W. W. Winter; bronze medal, W. J. Byrne; certificate, E. Greaves.

Lantern Transparencies—Silver medal, G. W. Wilson and Co.; certificate, Dew and Co.

AMATEURS.

Landscape or Seascape—Silver medal, Alex. Keighley; bronze medal, Ernest Beck; certificate, Jno. E. Austin.

Subject Pictures—Silver medal, Alex. Keighley; bronze medal, Jno. E. Austin; certificate, J. W. R. Brocklebank.

Architectural and Interior—Silver medal, W. H. Banks; bronze medal, C. C. Cole; certificate, Rev. T. Melloley.

Enlargements—Silver medal, Thos. J. Bright; bronze medal, A. R. Dresser; certificate, H. D. Arnott.

Portraiture—Silver medal, Mrs. G. Young; bronze medal, A. R. Dresser; certificate, Clarisse Miles.

Lantern Transparencies—Silver medal, E. G. Lee; bronze medal, A. R. Dresser; certificate, Ernest Beck.

GENERAL.

Mechanical—Silver medal, F. W. Edwards; bronze medal, T. Scotton; certificate, J. W. Darling.

Scientific—Bronze medal, E. T. Shelton; certificate, Fred. Riley.

Champion—Silver medal, F. W. Sutcliffe; bronze medal, W. W. Winter; certificate, R. W. Robinson.

The *Photography* Prize—Silver medal, W. W. Winter; bronze medal, Lyd. Sawyer.

The *AMATEUR PHOTOGRAPHER* prize—Silver medal, A. Keighley; bronze medal, T. J. Bright.

The Institute Prize—Silver medal, Thomas Heaps.

The Photographic Association Prize—First grade, Alex. Keighley; second grade, Rev. T. Melloley; third grade, J. W. Darling.

Mr. C. H. Bothamley, F.I.C., F.C.S., adjudicated in the scientific class, Mr. Charles W. Hastings being retained for all the other classes.

THE FORTH BRIDGE.—Messrs. G. W. Wilson and Co., of Aberdeen, have just published a short lecture on the Forth Bridge, which is to be illustrated by a series of twelve lantern slides, showing longitudinal section, tableau of principle, cross section at pier, skeleton plan, showing taper, caissons floating out, foundations, Queensferry, cantilever, upright part, mode of building out cantilever, progress of work, end of shore cantilever, approach viaducts, and bridge completed. The lecture is in very interesting form, and will give the audience a good conception of the magnitude and progress of the undertaking, and will help to emphasise the fact, which of late years has been doubted in some quarters, that British engineers are yet hard to be beaten.

Miscellaneous Items.

A CORRESPONDENT writes complaining that negatives sent to an exchange club, formed by Mr. J. F. Hardy, of West Hartlepool, have not been returned.

HASTINGS AND ST. LEONARDS PHOT. SOC.—This society announces its annual meeting for the 13th inst., when a paper, with illustrations, on the "Limelight" will be read by Mr. A. K. Dresser.

ILFORD PLATES AT BLACKPOOL.—Mr. J. Jackson writes, with reference to answer 2990, in the issue of September 13th, that he has been for seventeen years supplying all kinds of photographic goods.

THE *Phonetic Journal*.—We have received the first number of the new volume of this journal. It maintains its character for interest and clearness, and must be of great use to young photographers.

MESSRS. MCGHIE AND CO., of Glasgow, have sent us a charmingly got-up almanac. The card to which the monthly slips are attached is embellished with a print from a fine steel engraving of a yacht in full sail.

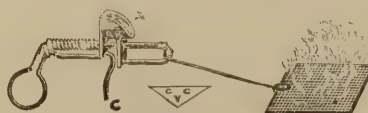
"HOMEWARD BOUND" is the title of a charming print (7½ by 5) of a yacht sailing up the Humber, with Hull in the dim distance. The picture is tastefully mounted, and at the back are appropriate lines. It comes with the season's greeting from Mr. J. Campbell-Thompson, and is a pleasant innovation on the old style of New Year's Cards.

SUTHERLAND PHOT. ASSOC.—In regard to the competition recently held by the members of this association, the judge, Mr. J. Haswell, D.C.L., has announced that he did not consider any of the pictures sent in of sufficient merit to be awarded the medal offered by the Editors of the *AMATEUR PHOTOGRAPHER*. The medals, silver and bronze, are again placed at the disposal of the Association, and will be competed for at a later date.

MR. TYLAR has added another to his long list of photographic "notions," in the production of a medium for backing plates to prevent halation. The plates are laid, film side down, on a sheet of tissue paper, and the medium is applied with a dabber, which forms part of the apparatus supplied. The medium is of such a nature that it can be easily removed by a warm sponge just before development.

MESSRS. TALBOT AND EAMER advise us that they are about to introduce a new quarter-plate hand-camera, constructed on a somewhat similar principle to the "Diamond" hand-camera, and which will possess the following advantages:—Size, 4½ by 5 by 8. No double chamber, consequently small and light. Purchaser's own lens can be fitted, as to an ordinary camera. Holds one dozen plates, which when exposed can be replaced by another dozen in open daylight. Fitted with Thornton-Pickard shutter.

MR. C. C. VEYERS, of Leeds, has sent us a sample of his shilling magnesium flash pistol, which is of very ingenious design. As will be seen by the annexed cut, it consists of a wire frame,



spring, and cast the contents of the box into the fiery furnace in front, the said furnace being a wire-wove plate soaked in methylated spirit. The design is most ingenious and effective for the purpose intended.

EXHIBITIONS.

SOCIETY.	PLACE.	OPEN.	CLOSE.
Phot. Soc: India	Calcutta	December	
Keighley Phot. Soc:	Keighley	January 6th, 1890	January 18th, 1890
Royton (Church Restoration)	Royton (Lancs.)	Feb. 5, 1890	Feb. 20, 1890
Hastings and St. Leonard's Phot. Soc:	Hastings	Feb. 25, 1890	Feb. 27th, 1890
Worcestershire Camera Club	Kidderminster	March 1st, 1890	March 15th, 1890
Crystal Palace Phot. Ex:	Sydenham	March 11th, 1890	March 29th, 1890
Ulster Phot. Soc:	Belfast	April, 1890	
Belfast Y. M. C. A.	Belfast	April, 1890	

To Correspondents.

THE insertion of **QUERIES** and **ANSWERS** is attended with much labour, and it is requested that the questions asked and the answers given shall be short and to the point. No charge is made.

All communications for the columns are to be addressed to The Editors, "Amateur Photographer," 1, Creed Lane, Ludgate Hill, London, E.C.

RULES.

1. Write clearly and distinctly on one side of the paper only.

2. Write each Query or answer on a separate sheet of paper.

3. Write the name and address legibly on the back of each communication, and sign all Queries and Answers with name or *nom de plume*.

4. All matters for these columns **MUST** be received by **TUESDAY MORNING'S POST**.

5. The Editors do not undertake to answer questions by post.

6. In answering Queries correspondents are requested to mention, in every instance, the number and full title of the query referred to.

QUERIES.

3351. **Spotted Prints.**—Can you or any brother photographer give me the reason and a remedy for the above? When I take my prints out of the frame they are stuck to the negative.—W. H. R.

3352. **Detective Camera.**—As I am thinking of making a half-plate detective camera, I should be greatly obliged if some of the readers of the **AMATEUR PHOTOGRAPHER** would tell me of a good lens for the same. Would a wide-angle lens be best? Exact focus and price would greatly oblige.—G. K. I.

3353. **Magnesium for Enlarging.**—In trying to use a magnesium ribbon hand-lamp in an enlarging lantern, the ribbon, as soon as lighted, runs into a sort of bulb, of varying length, out of the axis of the condensers, which prevents an even white illumination of the field. Has any fellow-enlarger found this difficulty; and is it remediable by using any other form of same illuminant?—FRED DAVIS.

3354. **Honeycomb Frilling.**—Can any of your readers give the reason why three of my Ilford dry-plates frilled up like honeycomb on being placed in cold water after fixing?—JOHN H. MONTAGU.

3355. **Gelatine.**—What renders gelatine insoluble besides bichromate of potassium and alum? Would readers give a reliable formula?—ANON.

3356. **Lancaster's Special.**—Is Lancaster's 12 by 10 Special patent 1886 camera reliable for hard work?—ANON.

3357. **Exhibition Matters.**—Would some of your numerous exhibitors kindly let fellow-readers know particulars on the following:—Silver prints, etc., for exhibition: Are they as a rule mounted; if so, on what kind of mounts and frames; are more than one 12 by 10 or whole-plate put in a frame, and is there glass placed in front, and what distance from the prints; if they are unmounted, what is a good background? Any other hints would be welcomed by many who have never seen an exhibition, as well as.—IDRS.

3358. **Cheap Plates.**—Perhaps "Country Cousin" will let us know where he can get the cheap plates he speaks about in last week's number, page 6, as no doubt they would be welcomed by many besides.—IDRS.

3359. **Fancy Bazaar.**—Would selling my photographs at a bazaar for church restoration disqualify my exhibiting at prize competitions as an amateur?—X. Y. Z.

3360. **Covering Power of Lens.**—I have a whole-plate lens which will cover a whole-plate at 6 ft. from sitter, but if used at about 30 ft. from sitter, it will cover little more than half-plate, cutting off so much of the corners of the plate or field. What is the cause, and how can I remedy it?—D. B. B.

3361. **Silver-Ring Rectigraph Lens.**—I want a first-class R.R. lens. Can any readers give me their opinion of Lancaster's whole-plate Silver-ring Rapid Rectigraph lens?—ADVANCED.

3362. **Ten Per Cent. Solution.**—Will Mr. Lyonel Clark kindly give me the exact proportions for a 10 per cent. solution of pyro, using distilled water, as I cannot quite understand his formula as given in issue of 6th December? Should sulphate of soda and sulphurous acid be used with distilled water, or would it be better to do so?—PYROGALLOL.

3363. **Negative Varnish Formula.**—Can anyone kindly give a reliable formula for a varnish for gelatine negatives, that will withstand the rain if left

out for a night, and at the same time is tough and durable?—G. B.

3364. **Pizzighelli Paper Staining Plate.**—When printing the other day, using Pizzighelli platinum paper, the paper got wet whilst in the printing frame, and was stained; it also stained the negative, which was pitted all over where the paper had got wet. Could anyone kindly inform me how to remedy the above, so as to restore the negative to the same condition as before? I may add the negative was not varnished, but I found the same thing happened when the negative was varnished. If any solution is recommended, kindly state whether it tends to reduce the negative or not. I soaked the negative in water, which made the pitted places less deep, but they still remain.—AMATEUR.

3365. **Water Condenser.**—Will any correspondent kindly tell me where concave glasses (clock faces) suitable for water condensers can be obtained? Also any information on the making of water condensing lenses will be thankfully received.—FESTINA LENTE.

3366. **Loan of Negatives.**—Will any friend lend me a few quarter-plate negatives for making lantern slides from. I intend giving free entertainments to the poor operatives here in Lancashire. Any negative views, such as these people have no chance of visiting would be very acceptable.—Squizz.

3367. **Jefferies' Patent Washer.**—I find that in the above the prints stick to the outlet. I should be much obliged if someone will kindly tell me if this can be avoided, and if so, how?—W. HALL.

QUERIES UNANSWERED.

Dec. 6th.—Nos. 3274, 3277, 3283, 3284, 3286, 3289, 3290, 3291, 3293.

13th.—Nos. 3297, 3298, 3300, 3302, 3304, 3305, 3306, 3307, 3312, 3314.

20th.—Nos. 3318, 3319, 3321, 3324, 3325.

27th.—Nos. 3329, 3330, 3332.

Jan. 3rd.—Nos. 3339, 3341, 3347, 3348.

ANSWERS.

3334. **Obnetter Paper.**—This querist seems to have got into a muddle all round, and all because he will try to use the same solutions over and over again. Surely if a thing is worth doing well, it is worth while to mix up fresh solutions. Kaolin is generally used for carrying down impurities in silver baths, and not for other purposes. Pictures will lie flat if mounted with the spirit medium sold for the purpose.—HELPSFUL.

3335. **Intensifier.**—Never having used Edwards' developer, I cannot definitely assure you about the matter; but no objection to its use in connection with the intensifier presents itself to me. As to quantity, I meant by 3 minims of sulpho-pyrogallol 3 grs. of pyro dissolved in 30 minims of water, with a certain weight (say 12 grs.) of sulphate of soda as a preservative. If you have worked out how many grains per ounce the strength of your pyro solution is, take the equivalent of 3 grs., and add this to the silver solution. But remember by this means you are considerably diluting its strength.—RADIATION.

3336. **Spilled Negative.**—"Mephisto" has rejected advice which has often been insisted upon in the columns of "ours," and has paid the penalty. He should have varnished his negative, and it would not have suffered. Perhaps the Platinotype people from whom he obtained the paper can suggest a remedy.—BROMO.

3337. **Lantern Plates.**—Certainly; but if "Lantern" means to coat plates, the following is the method.—Clean glass to be coated well and dry, then place on a levelled board or table. Take

Gelatine (best) 1 oz.

Hot water 20 ozs.

Dissolve and filter; then coat glass at a temperature of 130 degs. Fahr. (not too thickly), allow gelatine to set, and when set place vertically to dry in a place free from dust. When dry, sensitise with the following:—

A.

Iron-ammonia citrate 7½ drms.

Distilled water 4 ozs.

B.

Ferridyranide potass. (red) ... 5 drms.

Distilled water 4 ozs.

Mix A and B in equal proportions, and filter into a dish. The plate or plates are immersed in this solution, face up, for five minutes, always having enough solution to cover plates well; then take out and place vertically in dark to dry, which drying should by some means be quickened. When dry they are printed on, and treated in the same manner as the paper. N.B.—Sensitising can only be done by gas or lamp light, and a few drops of a ten per cent. solution of potassium bromide to the sensitising bath is an improvement. Only sensitise as many as are required for immediate use. The best subjects for this process are yachts on sea, and water views in general.—SILVER.

3338. **Platinum v. Gold.**—Let this querist read what has recently been done by Mr. Lyonel Clark and others, and refrain from asking such absurd questions. His oiled glass question he should settle by experiment.—L. L.

3340. **Phosphate Bath.**—It is distinctly bad to

make it too alkaline, and if you have made it too much so, dilute it to the proper strength, and add the right quantity of gold, which evidently should have been done at first, instead of making it so alkaline.—RADIATION.

3342. **Zincography.**—A book on this subject has been published. The author's name is Wilkinson.—JACK.

3344. **Lenses.**—Melchior does not give the focal length of his lens tube as he intends using it, nor diameter of tube to hold it, without which it is impossible to answer his question as to cutting off part of view. But if he draws a horizontal line equal to focal length of lens, and using it as a centre, at one end sets off at right angles a line equal to largest dimension of plate used, and at the other a point representing lens centre by ruling lines from lens centre to corners of plate, he has the light ray; and by sketching the diameter of tube in its position he will at once see if rays are cut off or not. As to lengthening exposure, it will not do so any more than if camera was right length.—LINDUM.

3345. **Toning.**—The prints should be deeper toned, perhaps deeper printed, and they will not then lose colour.—B. C.

3346. **Intensification.**—Try negatives in a very strong mercury bath, and, when white, in a strong ammonia bath. To intensify, the plates must always be "perfectly" free from hypo, and after the mercury bath, require to be washed well (under a tap if possible) for twenty minutes at least; then it is best to blacken in a bath of strong ammonia, and again well wash in a current of water. Ilford plates give fine results under this intensification. I cannot speak of other makes, but I have some very delicate negatives that have remained totally unchanged in three years after the mercury and ammonia baths; but well washing means long life.—A. W. GOTTLIEB.

3349. **Photographing Flowers.**—No special form of lens is requisite for this work, about which there is no great difficulty. Certainly, use isochromatic plates.—T. B. K.

3350. **Finder.**—A short focus spectacle lens, a sloping mirror, and a bit of ground glass will make a good finder. Could not this querist make better use of his powers of observation?—JIM CROW.

EDITORIAL.

NOTE.—Anyone requiring an opinion upon photographic apparatus, plates, etc., must give a number or initial for identification, as in no case will makers' names be inserted in this column.—EDS. AM: PHOT:

V.A.—The nearest society is at your own town, and the President is the Rev. T. Perkins, Grammar School, Shaftesbury.

SISTER E.—We should certainly advise you to obtain the two lenses by the maker first named. They can be made to fit the same flange by means of an adapter. Of course, we cannot tell whether your camera will open out long enough for one of these. An alternative plan would be to use the back lens of the R.R. as a single lens well stopped down for distant views. There is no difficulty now in getting the Iris diaphragm fitted to any lens.

R. B.—We were very pleased to look over your pictures, which are very creditable to a worker of such recent standing. The seascape is especially pleasing. We should now advise you to aim at getting artistic figures into your pictures, in order to invest them with greater interest.

SYLVER.—Old plates can never be as good as those which are freshly made, and it is often quite impossible to trace the actual cause of deterioration. The clear spots may be caused by dust, and especially by the kind of dust in a dark-room. We know of no remedy against damp-spoiled plates.

J. E. S.—The maker you name is quite safe to deal with. But we have had no actual experience of this particular lens, nor can we venture to state whether or not it is inferior to those of another maker.

P. W.—We believe that 1 and 2 are the best of those which you name.

W. H. R.—We cannot trace the cause of the spots upon the print which you send. They look as if the negative had by some means been abraded.

ELECTRA.—Our publishers will attend to your requirements. We should not advise you to use the portrait lens for detective work. The "extra rapid," whether half-plate or quarter-plate, should be equal in rapidity.

O. LAMBERT.—Thank you very much: the returned slides received safely. It is kind of you to send us such good wishes.

A. SCOTT.—No stamps were sent with your advertisement, consequently it was not inserted.

J. W. CARPENTER.—Your slides are very fair and are eligible for entry in subject g. See conditions of our "Lantern Slide Competition." You can have the prints back when you like.

C. S. MYERS.—Index will be sent out with next week's issue.

T. M. BROOK.—Your letter is most encouraging. The **QUARTERLY** has been well received, and we anticipate a very large sale.

J. W. MUNRO.—Send us the MS., and we will advise you as to publication.

JAMES FINDLAY.—The lens you name will give the same image and cover a half-plate, using a small stop. Hope your good wishes may all come true.

G. S. BIGLAND.—(a) Send your vote on a post-card; (b) will be inserted next week; (c) see advertisements.

B. M.—Your query should have been sent us as an advertisement to our Sale and Exchange column.

T. O'CONNOR.—Have lost sight of your query.

W. EDDYMAN AND CO.—Buy the PHOTOGRAPHIC SOCIETIES' REPORTER, and write to the secretary of the West London Photographic Society, which would be the best for you to join.

A. G. COBB.—Thank you, but it is very poor looked at from a photographic point.

F. DAVIES.—We have put your letter in our "suggestion" book.

W. P. PITTS.—Very glad the reason has been made plain to you.

H. MACLEAN.—We are very sorry, but on your own showing your work will not be eligible for our "Prize Tour Competition." The conditions have been drawn up with great care to meet the special objects of the Competition, and will be most rigidly adhered to. You should have entered for "Holiday Work," which was quite a go-as-you-please affair.

J. W. HALL.—We cannot give you the information asked. We were asked to select the best of a list, and have done so; this we shall be glad to do for you if you name three or four makers of plates.

J. G. PATTERSON.—Your idea is a good one and shall have our best attention. It has been placed in our "suggestion book." Some weeks must elapse before we can commence another special.

W. CLEMENT WILLIAMS.—We have your two letters, and will write you. Your suggestions are very admirable, and we shall certainly not fail to seriously consider them.

SQUIZZY.—We will help you and loan you some slides. Write us as to date, etc., and the matter shall have attention.

H. G. RICHARDSON.—The iridescent stains are due to chemical fog. Your negatives can be had at any time.

J. A. RANDALL.—At present we cannot meet your views.

LEWIS W. TINDAL.—We shall have much pleasure in framing your photographs contributed to our "Prize Tour Competition."

S. H. B.—They will be ready for return at the end of the month.

W. F.—We have no set of slides specially suited for illustrating a paper on "Hand Cameras." We shall be pleased to let you have fifty slides of the ordinary type. Many thanks for good wishes.

THOS. GILBERTSON.—No. 2 or 4 you will find very good lenses.

J. F. PEASGOOD.—Duly noted.

ALFRED PALENZ.—Cannot trace the receipt of any book by Robert Talbot.

L. C. BARKER.—The developing dish will be advertised very shortly, we understand.

E. LLOYD EDWARDS.—You will be quite safe, we think, in taking the camera with the lens recommended. Both lenses are admirable for the purpose. They are in focus beyond a certain distance. Would not advise you to have the other camera you mention.

ISLEY R. CODMAN.—Sorry not to have you in our competition, but shall hope to upon some other occasion.

MARTIN J. HARDING.—(1) The lantern slides can be made from the negatives certainly. (2) The fact you mention will not debar your entering the competition.

Sale and Exchange.

RULES.—Four penny stamps for twelve words or less, and one for every additional three words, must be enclosed with each advertisement, together with the name and address of the sender, which must be paid for, and sent to *Hazell, Watson, and Viney, Ltd., 1, Creed Lane, Ludgate Hill.* A single figure, or group of figures undivided by letter, space, stop, or words, counts as one word; compound words count as two words.

DEPOSITS.

Deposits for goods to be forwarded on approval may be made with our Publishers, who will hold the amounts deposited until they are satisfied that the transaction has been executed to the satisfaction of both parties. Cheques and Post Office Orders should be made payable to *Hazell, Watson, and Viney, Ltd.* A nominal charge 1s. is made of whether a sale is effected or not.

N.B.—Trade Advertisements cannot, under any circumstances, be inserted in this column. Such advertisements can be inserted elsewhere at the Trade Scale, which may be obtained on application to *Parry and Crawford, 1, Creed Lane, Ludgate Hill, London, E.C.*

Amateur Photographer.—**AMATEUR PHOTOGRAPHER**, unbound, clean, from November 21st, 1884, to December 23rd, 1889 (numbers missing, October 9th, 1885, and October 8th, 1886). What offers in cash? *M. Clarke's Library, Richmond Road, South Kensington.*

AMATEUR PHOTOGRAPHER, from commencement to date, complete, unbound, indexes, plates, and special numbers, splendid condition; lot for 25s.—*Hedderwick, Hogganfield, Glasgow.*

Amateur Photographer, etc.—**AMATEUR PHOTOGRAPHER**, volumes 3 to 6 bound, and 7 to date unbound; *Photographic News*, bound, 1885; several year-books and other works on photography. What offers? or will exchange for good hand-camera or quarter-plate set.—*Photo, 173, Hemingford Road, Barnsbury.*

Camera.—Good ha'f-plate Instantograph camera, complete, equal to new; three double dark slides; 75s., or exchange for whole-plate, with rectilinear lens.—*60, Load Street, Bewdley.*

Wanted to exchange, full-plate camera (with rising and sliding front, rack and pinion focussing arrangement, bellows body, reversible, new condition) for half-plate, with same arrangements.—*Geo. Howard, 19, Boston Castle Grove, Rotherham.*

Camera with Lens.—Special patent, very portable, light, whole-plate conic camera, complete, rectigraph lens, Iris diaphragm, splendid definition, and threefold field stand; all guaranteed in very good condition, as new; sacrifice £7 10s. Purchasing larger apparatus.—*Porphyrus (address with Publishers).*

Engine.—Model paddle engine, brass boiler; price 35s.—*Burt, 67, Forest Road, Dalston.*

Gas Cylinder.—Gas cylinder, 40 ft., with about 30 ft. of oxygen gas; £2 2s.—*W. Hargreaves, 83, St. James' Street, Burnley.*

Hand-Camera.—Defective camera, by Thistleton, 5 by 4 Beck R.R. lens, with Iris, time and instantaneous shutter working between lenses, finder, six double backs; price £3 6s. Also a Facile. £2 12s. Specimens shown.—*G. R. B., 136, Junction Road, N.*

Lantern Slides.—Several dozen lantern slides, 4s. 6d. per dozen, or will exchange for good hand-camera, or quarter-plate set.—*Photo, 173, Hemingford Road, Barnsbury, N.*

Lenses.—R.R. lens, by Stereoscopic Company, excellent condition, with stops.—£1 ls.—*Laurel Cottage, Heath, Leighton Buzzard.*

7 by 5 Kyrscope rectilinear; cost £4; price £2 19s. Whole-plate rectilinear, 3ls. 6d.; half-plate rectilinear, 2ls. Bargains, half-cost.—*P., 82, Preston New Road, Blackburn.*

Lens with Shutter.—7 by 5 Optimus R.R., as new, £2; with pneumatic shutter, £2 3s. 6d.—*L. S., 41, Waldemar Avenue, Fulham, S.W.*

Organ.—Handsome American organ, 9 sets, 18 stops, 8 ft. 6 ins. high, 29 gold embellish pipes on top; £36. Photograph 4 stamps.—*Burt, 67, Forest Road, Dalston.*

Retouching Desk, etc.—Best make mahogany retouching desk for 12 by 10 to quarter plates; cost 35s.; price 15s. 12 by 10 tripod, best make; cost 42s.; price 18s. 6d. Also a few photographic sundries, cheap.—*Thomson, 31, Lee Terrace, Lee.*

Safety, diamond pattern, unsoiled; list £15, sacrifice £7 10s. Approval, anywhere.—*Potter, 2, Peter's Street, Norwich.*

Studio, etc.—Studio, portable, 15 ft. by 6½ ft., 130 ft. glass; modern half-plate camera, studio stand, tripod, quarter-plate camera, and lens; 120 **AMATEUR PHOTOGRAPHERS**; £10.—*Mason, 5, Pleasant Row, Hyson Green, Nottingham.*

Quarter studio camera, tripod, lens, slide, nine printing frames; price 30s., bargain.—*250, Hornsey Road, Holloway.*

Set.—Quarter studio camera, tripod, slide, lens, nine printing frames; price 30s., bargain.—*Locken, 250, Hornsey Road, Holloway.*

Lancaster's Instantograph, 1889, half-plate, fitted all latest movements and improvements, double extension, reversing back, Instantograph lens and shutter, Iris stops, double dark-slide, quarter-plate carrier, and folding mahogany stand; set complete; approval; 74s.—Cousins, 5, Stanley Villas, Bruce Grove, Tottenham.

15 by 12 camera, two double dark-slides for films or glass, and strong stand, specially useful for enlarging; only £2. Also Lancaster's quarter-plate International, with rapid rectilinear lens, stand, and four double dark-slides; cost £5; sacrifice for price of the lens only, viz., £2, or useful photographic exchange.—*Write V. A. G., 20, Pembroke Road, Kensington.*

Camera, Farnival half-plate, all latest movements, three mahogany double backs, folding tripod, leather and canvas cases, etc.; bargain, £5.—C., 30, Brooke Road, Stoke Newington.

WANTED.

Camera.—Facile or any good detective camera; exchange violin, value 70s., and cash.—*Walter Davies, Newbury.*

Lancaster's half Instantograph, 1889 (no lens or tripod); cheap; approval.—*Stevens, 209, High Street Sheerness.*

Camera, etc.—Half-plate square-bellows camera, by good maker, three or four double backs.—*State price and particulars to James Balmforth, Wellington Street, Batley.*

Hand-Camera.—Hand-camera, perfect.—*Price and sample to Ward, Merton Road, Southsea.*

Lantern Slides.—Good lantern slides and part cash, or otherwise, for handsome 12-air musical box, six bells, price new last year £12.—*Write C., 41, Thornhill Road, N.*

Phot Soc Reporter.—**PHOTOGRAPHIC SOCIETIES REPORTER**, Nos. 1 and 2. State price.—*Samuel Woolley, 75, Victoria Street, Ashton-under-Lyne.*

Set.—Camera, dark-slide, lens, and stand; cheap.—*H. P., Broad Street, Bath.*

PHOTOGRAPHIC QUARTERLY.

Illustrations for future Numbers.

It is intended in the future numbers of the "PHOTOGRAPHIC QUARTERLY" to present Subscribers with a Photogravure of some well-known Photograph. Will the Readers of the "AMATEUR PHOTOGRAPHER" fill up the annexed Coupon, with the Title of Picture and Name of Photographer whose work they consider most suitable for the purpose. The publishers will endeavour to reproduce the Photographs receiving the largest number of votes.

If preferred, Title of Picture and Name of Photographer may be sent on a Post Card, but in any case the Name and Address of the Voter must be given.

The Coupon or Card must be returned on or before Monday, the 13th of January, 1890, addressed to:—

The Editor, "PHOTOGRAPHIC QUARTERLY,"

1, CREED LANE, LUDGATE HILL, LONDON, E.C.

"PHOTOGRAPHIC QUARTERLY" ILLUSTRATIONS VOTING COUPON.

I _____

of _____

consider _____

by _____

a suitable Photograph for reproduction by Photogravure, and worthy of publication in the "PHOTOGRAPHIC QUARTERLY."

Date _____

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NOTICES TO SUBSCRIBERS.

Subscriptions must be prepaid.

UNITED KINGDOM	Six Months, 5s. 6d.	Twelve Months, 10s. 10d.
POSTAL UNION	6s. 6d.	13s. 0d.
INDIA, CHINA, ETC.	7s. 9d.	15s. 3d.

NOTICES AS TO ADDRESS.

PUBLISHING DEPARTMENT.—All letters containing Subscriptions, Orders, Remittances, SALE AND EXCHANGE Advertisements, or other business matters for the *Amateur Photographer* are to be addressed to the Publishers, HAZELL, WATSON, AND VINEY, LD., 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

NOTE.—SALE AND EXCHANGE Advertisements, at the charge of Three Words for One Penny, can be received as late as WEDNESDAY MORNING.

ADVERTISEMENT DEPARTMENT.—All communications respecting TRADE Advertisements in the *Amateur Photographer* are to be addressed to PARRY AND CRAWFORD, 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

NOTE.—Trade Advertisements are received up to Tuesday morning.

EDITORIAL DEPARTMENT.—All Literary Contributions, Queries and Answers, Photographs for Competition or Criticism, Books or Apparatus for Notice or Review are to be addressed to the Editors, *Amateur Photographer*, 1, Creed Lane, Ludgate Hill, London, E.C.

NOTE.—To ensure insertion all Communications should reach the Editors on Tuesday.

CORRESPONDENCE SECTION.—Anyone wishing to communicate with Contributors can do so by forwarding such Communication in stamped envelope under cover to the Editors, *Amateur Photographer*, 1, Creed Lane, Ludgate Hill, London, E.C.

"AMATEUR PHOTOGRAPHER" PRIZE TOUR COMPETITION, 1890.

(FIFTH YEAR.)

Competitors' work will be exhibited at the Crystal Palace Photographic Exhibition.

PRIZES.

FIRST PRIZE:

"AMATEUR PHOTOGRAPHER" GOLD MEDAL.

<i>Second Prize</i>	£4 4 0	and Silver Medal.
<i>Third</i> "	3 13 6	" " "
<i>Fourth</i> "	3 3 0	" " "
<i>Fifth</i> "	2 12 6	" Bronze "
<i>Sixth</i> "	2 2 0	" " "
<i>Seventh</i> "	1 11 6	" " "
<i>Eighth</i> "	1 1 0	" Certificate.
<i>Ninth</i> "	15 0	" " "
<i>Tenth</i> "	10 6	" " "

All photographs and MSS. must be endorsed "Prize Tour Competition," and addressed to the

Editors, *AMATEUR PHOTOGRAPHER*,
1, Creed Lane,
Ludgate Hill, London, E.C.,

on or before the 28th of February, 1890.

NOTE.—A copy of rules, form of declaration, and competitor's form will be sent on receipt of stamp.

"AMATEUR PHOTOGRAPHER" MONTHLY PHOTOGRAPHIC COMPETITION.

No. 8.—"ENLARGEMENTS" (January 16th).

Two Silver and Two Bronze Medals.

(All pictures must have attached to them a print from the original negative; they must be mounted, and can be of any subject.)

Entry form forwarded on receipt of stamped and addressed envelope.

Address:—"Monthly Photographic Competition," The Editors, *Amateur Photographer*, 1, Creed Lane, Ludgate Hill, London, E.C.

Crystal Palace Photographic Exhibition.

MARCH 11th to 29th, 1890.

SPECIAL NOTICE.—ADDITIONAL PRIZES.

In deference to a generally expressed wish, a Special Class will be formed in addition to the published Schedule, and a Silver Medal will be awarded for the best Picture, irrespective of subject, to be selected by the Judges from amongst those Pictures which have never been previously shown at a public Exhibition. Pictures entered for this Prize will be equally eligible for award in their several Classes.

Two Additional Silver Medals

Will be given by Mr. BUCHANAN WOLLASTON and Mr. J. F. PEASGOOD—(A) one by Mr. B. WOLLASTON for the best Picture, irrespective of Class, in the *Amateur Section*; and (B) one by Mr. J. F. PEASGOOD for the best Picture, irrespective of Class, in the *Professional Section*, neither Picture having taken any other award in this Exhibition. The whole of the Exhibitors in the Apparatus Division will be asked to adjudicate upon these Supplementary Awards.

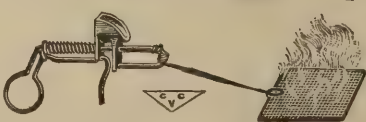
VEYERS' MAGNESIUM FLASH PISTOL. Post Free 1/3

1/- Complete. For taking Instantaneous Photos at Night.

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Magnesium Powder (of Guaranteed Purity), 1/7 per oz. Postage, etc., 2d.



Nothing breakable. Made entirely of brass and steel. Folds up for carrying in waist-coat pocket!

VEYERS' COLOURED LANTERN SLIDE BINDERS.

Put up in boxes of 100 strips, each sufficient for one slide. Colours: Green, Blue, Pink, Orange, and Lilac. The price—like all Veyers' Specialities—just half that charged for the ordinary black binders. 6d., post free 7d.; in box. 9d.

C. C. VEYERS, 12, MARKET STREET, BRIGGATE, LEEDS.

The AMATEUR PHOTOGRAPHER

Editors:—CHARLES W. HASTINGS & T. C. HEPWORTH, F.C.S.

TELEPHONE
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FRIDAY, JANUARY 17, 1890.

[PRICE TWOPENCE.]

◀ OUR VIEWS. ▶

"To hold as 'twere the mirror up to nature."—*Shakespeare*.

A VERY interesting letter is published in another column upon the establishment of a lantern club. The uses of such a club are very numerous, and we should say that Mr. T. H. Holding's suggestions will receive the ready support of many of our readers. We shall be pleased to receive letters upon the subject, and will render the scheme every assistance in our power. It is well known that we hold strong views as to the usefulness of the lantern as a means of giving instruction in an interesting and popular manner.

* * * *

OUR contemporary, *The Queen*, calls attention to the fact that Mrs. Eveleen Myers, sister of Miss Dorothy Tennant, the painter, has turned her attention to the artistic side of photography with great success.

"Mrs. Myers endeavours to bring out the possibilities of beauty in the subject she selects, rather than to produce a faithful likeness of any particular person. Her method is, in short, that of the painter or the sculptor who endeavours from the suggestions which a model affords to create a work of art in accordance with his own ideal. Mrs. Myers, it must be admitted, has been singularly fortunate in her models, and in none more so than the lovely children who form the subjects of several of her finest photographic studies. 'The Little St. John,' representing the lines, 'A young lamb's heart among the full-grown flocks,' is instinct with poetry and charm, as is also a winged head, entitled, 'The Compassionate Cherub.' 'Entering on Life' and 'I am a Monarch of all I Survey' are delightful examples of English childhood in its undaunted courage and innocence. In the last-named picture, the sheen of the child's silken draperies, the texture of the fur, and the modelling of the limbs are all reproduced with more than usual finish. The series also comprises some beautiful girls' heads."

Mrs. Myers also took several photographs of the late Mr. Browning, as well as two of the Rt. Hon. A. J. Balfour, M.P. We quite hope that Mrs. Myers may be induced to contribute to the PHOTOGRAPHIC QUARTERLY.

* * * *

A SUBSCRIBER, a professional photographer, writes us—

"THE PHOTOGRAPHIC QUARTERLY is a step in the right direction, and adds new dignity to photography by raising the status of photographic literature. The illustrations are good, by good processes, which is more than can be said for the usual process-illustrated year-books, etc.

"One very important feature, to my thinking, in your new venture is the portraits of men who have done good work for photography as a science and an art, and there is no doubt that you will earn the gratitude of all intelligent photographers, by continuing to issue in a *permanent* and detached form these portraits. It is a shame to our societies and clubs that no attempt (that I am aware of) has ever been made to form an historical collection of photographic celebrities."

Such a letter is exceedingly gratifying to the conductors of the QUARTERLY, and the suggestion held out will not be lost sight of.

* * * *

WITH regard to the "popular vote," we must admit that the number of coupons received has not been so great as we should have thought. Next week we shall publish the order of the six pictures which have received the largest number of votes, and shall communicate with the artists whose names are mentioned, and ask their permission to reproduce the photographs. Each one will be a frontispiece, and will, we trust, form an agreeable addition to the illustrated photography of the day.

* * * *

It is only right that we should publish the following extract from a letter received from the Secretary of the Sunderland Photographic Society in regard to the recent adjudication of Dr. Haswell:—

"Your letter to Dr. Haswell came before our Committee meeting a day or two ago. We are very much obliged for your kind offer of two medals, and we propose holding a competition for them about June, if you are agreeable. We consider we have been very fortunate in having such a good judge as Dr. Haswell, and quite agree with you that he decided very wisely in withholding the medal if the work was in his opinion unworthy of the honour. It is the best way to incite the members to make fresh efforts to attain a higher standard of excellence; and I think all the members of the society agree with me, now that they have looked at the matter in the right light."

The letter is exceedingly gratifying to us, and we feel sure that the competition in June will see better all-round work.

* * * *

THE Secretary of the Birmingham Photographic Society advises us that the exhibition of members' work will be

For Contents, Prize Competitions, Notices, etc., see page 48.

considerably more extensive this year. The members have sent in nearly 400 exhibits—surely a first-class record of work done.

* * * *

DR. EMERSON'S name has been so constantly before the public with reference to "Naturalistic Photography," that it will be quite a relief to our readers to "change the venue." A work from Dr. Emerson's pen has just been published under the title of "English Idylls." The following is an excerpt from the notice of the book which appeared a few days since in the *Pall Mall Gazette* :—

"Word-painting, like all other arts, has its proper times and uses, but we doubt whether it has ever been less appropriately employed than in Mr. Emerson's description of a fisher-maiden putting a worm on the hook—a process on which the poet or artist should scarcely care to dwell. 'As she fenced with the lively bait that 'twixt her fingers slipt, like silvery eels through the narrow meshes of a net, her hair sable as the coot's wing—loosely enkerchiefed—waved wantonly 'gainst her temples. . . . While striving with the dew-worm, her eyes, bright and humid, were in turn like skies in April; but when the bait was thrird and dangled in the stream she silent sat, and so gently flowed the tide along that she could hear the drowsy moths flutter as they sipped the nectar from the fragrant lychnis cups, and the tardy warblers piping in their swaying nests.' There is too much of this sort of thing in the volume. Mr. Emerson has made the fatal mistake of supposing that such elaborate bombast, full of tropes and inversions, is more 'idyllic' than a simple and unembellished narration of facts."

* * * *

WE have been favoured with a copy of the current issue of the *Art Journal*, to which we briefly referred last week. The article on "Winter Photography for the Artist," by H. P. Robinson, concerns us most. It is in the admirable style so well known and appreciated; as might be expected, it is somewhat educational, and is, of course, written mainly for those who require only to practise photography as an aid or helpmate to painting. In writing of snow scenes, he says, "The painting of snow does not rise above the quality of figure-painters' landscape. Turner's 'Frosty Morning' is perhaps the truest rendering of a black frost ever painted." The illustrations accompanying the article are, "Study of Hoar Frost on the Buss-Alp Path, Grindelwald," by Capt. Abney; "A Frost Study," by Frank Hopp; "A Quiet Stream," by Ernest Spencer; and "Sandringham," by H. Bedford Lemere. Mr. Robinson says, "Winter offers a great number of good subjects for the painter, but there are almost insuperable difficulties in the way of studying the infinite detail of wintry nature out of doors. Here steps in the younger sister, Photography, as the beneficent handmaid to the older art. . . . In making snow pictures, I should, with few exceptions, prefer sunlight. The increased contrast would give the delicate light and shade a better chance. I do not think that any appreciative difference in exposure need be made between scenes of the kind taken in sunlight, providing the light is otherwise the same." The whole article is worthy of close perusal, but we have given the above quotation because we feel that many of our readers will value the opinion of so able a master in the art upon the subject of "Winter Photography." The Bishop of Ripon contributes an able article to the same number upon "Art and Culture." We are in accord with much that he writes, and many of our readers will be ready to find an answer to the following, which we extract from the article :—"Who can resist Pleasure when

she comes adorned with all the attractions of art and culture?"

* * * *

A NOTION appears to have got abroad that we intend abandoning the "Home Portraiture" Special Number of the AMATEUR PHOTOGRAPHER. This is not the case; the work is well advanced, the illustrations being nearly all ready. It will far surpass any of our previous "Specials," and will contain an autotype print, "Children of the City," by Alex. Keighley; Woodburytype print, "Meditation," by Alfred Stieglitz; a collotype, "Day Lilies," by Mrs. Brian Hodgson; and another collotype, "Little Lord Fauntleroy," by A. R. Dresser, and about forty process blocks. We offer to our subscribers sincere regret at the delay, but hope soon to be able to fix definitely the date of publication.

* * * *

THE Newcastle-on-Tyne and Northern Counties Photographic Association are providing a very extensive exhibition, which will be opened on the 18th of April, and remain open until the 3rd of May, in the Central Exchange Art Gallery. We note that no less than eleven classes in photography and four in lantern slides are open to "professionals and amateurs." We regret this exceedingly, for reasons we have often stated. The rules and regulations state, "Rule 6: In the amateur classes the work must be entirely the work of the exhibitor." There are five classes "open to amateurs only;" all the work entered in these classes, we take it, "must be entirely the work of the exhibitor." What about photographs entered in the eleven classes open to "professionals and amateurs"?

The conditions under which photographs are entered for competition at photographic exhibitions are far too loosely drawn. There does not appear to be any form of declaration attached to the prospectus, and although the executive have an admirable list of classes, and no less than two gold, twenty silver, and eighteen bronze medals to award, we venture to predict that upon such a carelessly arranged prospectus the number of entries will not be numerous, and the best class of exhibitors will not compete.

* * * *

It is not the first time that we have called attention to want of care in drawing conditions for photographic exhibitions, and we venture to think that the time of the Council of the Photographic Convention and the Conference Committee of the Camera Club would not be wasted in drawing up a set of rules, conditions, and classes, as suggestions for the promoters of photographic exhibitions. There are too many exhibitions, prizes are far too numerous, and as a consequence the work shown is frequently of a very ordinary character.

* * * *

MR. A. STROH, we regret to say, has been somewhat indisposed, and it will be a few days before we receive his award upon the slides contributed to our "Stereoscopic Slide Competition."

* * * *

IN connection with the AMATEUR PHOTOGRAPHER Competitions we have made the conditions as stringent as possible, resulting, we are pleased to say, in an increase in the number of competitors, and a far higher standard of

excellence. We are quite certain that the same end would be gained at exhibitions if greater care was taken in arranging conditions and classes.

* * * *

WE are pleased to note the formation of another photographic society, under the title of the Spen Valley Photographic Club. The head-quarters of the club will be at Cleckheaton, and Mr. W. H. Wright, of that town, will be pleased to hear from any gentlemen who may be desirous of joining.

* * * *

PHOTOGRAPHS AT KEIGHLEY.

BEFORE making our few remarks upon the principal photographs entered for competition at the Keighley Photographic Exhibition, we would state that we have received a press copy of a somewhat lengthy letter addressed by Mr. J. A. L. Robson, the very able and courteous Secretary of the Keighley Institute, to our contemporary *Photography*, with a request that we should publish the same; this request we regret we cannot comply with. The letter answers certain misstatements made by our contemporary with which we have no concern, but we cannot refrain from saying that the reflections made upon the exhibition by the editor and his reporter are quite unwarrantable, and show considerable ignorance and much bad taste.

The photographs contributed to the exhibition this year are certainly of a higher standard than last year; they may not be as numerous, but, as a whole, the competitors show much more care and attention both to the technical and artistic qualities of the photographs they have entered for competition.

The four pictures entered by Mr. Lyd. Sawyer have many characteristic points; they are all typical of the Tyne. "On the River Tyne," for which Mr. Sawyer was awarded first prize, is perhaps the most truthful, and is a faithful picture of the life and bustle of the river. In one, or two, of the others Mr. Sawyer has "hazed off" his distance, in our opinion, "not wisely, but too well;" still, they are four very fine pictures. Mr. J. P. Gibson, of Hexham, takes the second prize in this class; he exhibits only two pictures, "June" and "September." We much prefer the former, which is an admirably-chosen scene of perfect balance, well lighted, and with an unobtrusive figure introduced. Mr. George T. Harris shows four good frames, "A Jersey Farmstead," "Gathering Seaweed," "A Jersey Lane," and "Mont Orgueil Castle;" this latter view secured him the certificate. All the views are well chosen, and "Gathering Seaweed" would be the best picture were it not for the stiff posing of the figures.

In this class Mr. F. W. Sutcliffe exhibits two or three of his landscapes, which, in our opinion, are neither of artistic or technical value. A few fairly-chosen frost scenes are exhibited by Mr. F. Scamell; and the two exhibits by Mr. E. Greaves of "Views in Derwentwater," deserve notice, but each suffer from the fault of the day—too much foreground.

In the next class, "Subject Picture," Mr. H. P. Robinson takes the first prize with "Gossip on the Beach." This is Mr. Robinson's latest picture, and certainly is far in front of "Merry Fisher Maidens." We gazed very thoughtfully at the picture, and would first grumble because it is hung above the line of sight; this exaggerates

what we would very respectfully suggest is a fault in the composition, the horizon-line, which is placed too high in the picture. The figures also appear to us somewhat to obtrude themselves in the foreground; the grouping is crowded, and the accessories rather too numerous and obtrusive; still, we have a charming picture, and we would venture to hazard the opinion that there is no other man living who can portray such a subject in photography. The colouring is soft and grey, broken by bright flecks of light upon the water and the deep shadows of the figures. The earnestness of the gossippers is depicted with a truth quite surprising when we think of the unsympathetic lens and the instantaneous and unyielding receptiveness of the sensitive plate. Mr. Sutcliffe takes second place with a fine study of an old woman, truly a splendid portrait of a most admirable model. Mr. Sutcliffe exhibits other pictures; we have his everlasting Whitby fishermen and women, taken in front and behind, standing, sitting, kneeling, crouching, and so on *ad infinitum*. We have seen these men and women at every exhibition for years, and are tired of them. Lately Mr. Sutcliffe has thought fit to "haze off" the distance, until in some that he exhibits Whitby is completely enveloped in fog, although there is a bright light upon the men and women on the jetty. Mr. Sutcliffe is an old exhibitor, and ought not to give us the opportunity of calling attention to careless work, but it is a fact that on one print exhibited there are no less than *five blemishes*; of course, in these days such a thing is inexcusable. The certificate of the class went to Mr. and Mrs. Anckorn for "My Time is Done," really a subject picture. An old man has taken down the kitchen clock, and has done his best with the domestic bellows to denude it of the "dust of ages" all to no use, leaving one to draw the inference that the clock is done. The picture is well lighted, and the position of the figure not at all forced or unreal, as is the case with some of the photographs by the same exhibitors. Mr. Ralph W. Robinson shows a pretty study, "Good-bye, Granny," but we should much question the desirability of taking such a subject with a portrait lens; another by him is "The Jolly Young Miller," which, though good, is hardly a subject-picture. We notice that Mr. R. W. Robinson mounts his prints on Whatman's rough drawing-paper; the grain in the paper is a happy contrast to the smooth surface of the usual commercial mounts. Mr. Lyd. Sawyer exhibits in this class his "Here's a Nest, Lads!" which is strangely chosen, and we fancy there are signs of the brush on the print. Another by him, "How Happy could I be with Either," is badly grouped and lighted. The class is not a strong one, and there does not seem any direct departure from the beaten path, except by Mr. H. P. Robinson.

In Architectural and Interiors, professional, some most admirable work is exhibited by Mr. Wm. E. Henry; the first prize was awarded for "Minster (Lichfield) Spires" and "Sleeping Children." All the other frames were of equal merit, and thoroughly deserve recognition. The second prize was awarded to Mr. T. Scotton for a frame of nine views executed in platinotype. The centre one has been exhibited by him before, and we fancy medalled, in which case it had no right to have been included in the frame. The certificate went to Mr. R. W. Robinson for a most charmingly-lighted interior of "The Marble Hall." The light piercing through a screen, and the reflection of a fountain upon the floor are really marvellous. We should

like much to visit the place so well reproduced by photography. Messrs. Dew and Co. contributed several very good views of churches at Warwick, Lichfield, Coventry, etc.

Enlargements, professional, were a very small class. The first prize, "Study of an Old Man," by F. W. Edwards, was very fine. No other call for comment here.

In portraiture, "Miss Mabel Francis," by W. W. Winter, takes first prize, and is a fine example of the exhibitor's work. "Elsie" is another; but, Mr. Winter, you really must not draw as well as paint and still expect to have your work classed as a photograph. Mr. Winter is not so great a sinner with the brush as the recipient of the second prize, Mr. W. J. Byrne; that gentleman's portraits are really marvellous, and so long as the public require the photographer to call in the help of the painter, so long Mr. Byrne and others will provide for their requirements. The photographs exhibited are excellently executed, but they are more paintings than photographs. We were much struck with two portraits of girls, the work of Mr. E. Greaves, who was awarded a certificate for his work, and must compliment him upon the natural pose of the heads and the care displayed in retouching; in no way does it obtrude upon the sight, and we have not the least doubt that the pictures were very faithful portraits. A group by the same exhibitor showed great care. Mr. Ralph W. Robinson exhibited several of his admirable "Royal Academician" series, which are in every way up to those which have been medalled and received such very high praise in all quarters.

We shall have to leave the amateur section until our next issue, and trust we have said enough to prove that in our opinion the Exhibition at Keighley can hold its own, and is well worthy of support by all interested in photography, either as exhibitors or visitors.

* * * *

PHOTOGRAPHY AS AN ART TEACHER.

PHOTOGRAPHY has already done much by popularising works of art to make the general public familiar with and appreciative of good pictures. It is quite certain that the public were in need of such education at the time when photography stepped into the gap. Pictures they must have, and must have them at a price within their means, and as no English publisher saw the need, or had the enterprise to take advantage of it, the country was soon flooded with cheap German lithographs, plain and coloured, which were chiefly remarkable for their bad drawing, their utter defiance of the very grammar of art, and their want of truth to nature. The ignorance of everything which an artist ought to know descended even to their titles, which appeared in German on one side, and in English on the other—the latter generally being a ludicrous mistranslation of the former. Such pictures are still to be found in a few village inns and cottages, but the splendid coloured pictures issued by our illustrated papers and photography, together, have, we fervently hope, for ever stopped the sale of these awful specimens of German art.

But is photography as much used as it might be in educating the masses? Certainly it is not so much employed in this country as by our Continental neighbours, who seem to use it more largely for copying purposes. It may be that our artists and the owners of celebrated pictures do not care to see their works multiplied, and possibly fancy that the value of a work of art becomes

reduced when thus brought within the ken of the multitude. The first objection is a selfish one, and we can all well understand the feeling which prompts a man to keep a good thing to himself. But the other objection is, we fancy, purely imaginary, and not in any way justified by facts. Indeed, we can point to two instances in which popularity has greatly increased the value of a work of art. One of these was a picture painted by a leading artist for an illustrated paper, for which he received one thousand pounds. This picture after it had been reproduced and sown broadcast over the land, was sold by its proprietors for an enhanced sum, and a few months afterwards its new owner parted with it for more than three times its original price. The other example which we have in mind is the statuette "The Dirty Boy," which was originally exhibited in the Paris Exhibition of 1878. This was bought, as we all know, by Messrs. Pears for advertising purposes, and the sum they gave for it was five hundred guineas. Although this work has been copied and travestied in every conceivable form and material, there is no kind of question that its owners could easily make a profit on their purchase of three or four hundred per cent. if they cared to put up "The Dirty Boy" for sale. We think that these two cases will dispose of the erroneous belief that popularity of a work of art tends to decrease its value, for the reverse is the case.

For some reason which is not at once apparent, our French neighbours are not so conservative in their notions, and the best pictures in the *Salon* and other exhibitions are speedily and cheaply reproduced by "process." A glance at the illustrated books at any publisher's of foreign works, of which there are several in London, will at once show the extent to which these artistic productions are employed. But one publication which appears year after year seems to stand out boldly from the rest, both because of its excellent work and its cheapness. This is the *Figaro Salon*, by Albert Wolff, which is published in five parts, folio size, each part containing an average of fifteen pictures, which in quality are equal to fine steel engravings. A large proportion of these pictures cover a full page, that is to say, they measure about thirteen inches by nine, while a few are double this size. The process by which they are reproduced is that of Goupil (Boussod, Saladon et Cie), which is remarkable for producing a printing block in which the original marks of the artist's brush are plainly discernible. In this manner the best works of the modern French painters are brought to the homes of the people, and they cannot fail in fostering a love for that which is artistic and beautiful.

Photographic processes for the production of printing blocks are seen at their best in the reproduction of paintings. The old difficulty in dealing photographically with designs in colour has disappeared with the advent of Isochromatic plates. We therefore think that it is high time that the lovers of pictures in this country should have the same advantages as are possessed by their Continental neighbours. The only attempt in this direction which we can call to mind is the photographing of the pictures in the National Gallery, but the absurd prices asked for these photographs is prohibitory to the general public. There has also been an attempt to produce by process an illustrated catalogue of the Royal Academy pictures, but the work was not well done, nor was the price asked for it likely to make it popular.

Letters to the Editors.

WARM TONES IN BROMIDE PRINTS.

SIRS,—In my endeavour to find a developer that would give warm tones in bromide prints, I hit upon this formula. I fancy it is the old form of Thomas' hydroquinone for lantern plates.

I.					
Hydroquinone ..	..	..	..	80	grs.
Bromide potass. ..	..	..	..	15	"
Sulphite soda ..	..	..	..	1	oz.
Water ..	..	..	..	20	ozs.
Citric acid ..	..	..	..	60	grs.

II.					
Carbonate of soda ..	..	..	..	2	ozs.
Carbonate potash ..	..	..	..	2	"
Water ..	..	..	..	20	"

For use, equal quantities of each.

One is apt to get tired of the engraving black so much in demand, and a hankering still remains for the purple tones of the despised silver print. By this formula a happy compromise is effected, and a purplish brown is the result.

An ordinary negative requires an exposure of about fifteen seconds on the Ilford slow paper, a foot away from the gas, the image appears in about forty seconds, and development is complete in about three minutes. So much for its quickness. There is a tendency, however, in the misleading ruby light, to stop development at too early a stage, but it should be proceeded with until apparently rather deeper than required in the finished print, as a slight reduction is brought about in the hypo.

I cannot find any hydroquinone formula recommended by the Ilford people themselves for the bromide paper, and it seems to me a mistake that it is not included; the one mentioned works equally well with their brand of ordinary plates.

I enclose a print for your inspection.—Yours truly,

BERNARD ALFIERI.

* * * *

AMATEUR PHOTOGRAPHERS IN THE ANTIPODES.

SIRS,—Now that a brother cornstalk has broken the ice with you, I venture to write you. Unlike Mr. McLean, I have had your paper from the first number till to date. The first time I saw it was in the window of a bookseller's shop in George Street, Sydney, N.S.W. (G. Robertson and Co.), in the shape of Vol. I. bound up. Needless to say, being in love with my camera, a then recent purchase, I entered the shop, examined the book, and bought it. The following morning, at breakfast, my landlady reminded me that gas was 8s. 6d. per 1,000 ft., and hoped I would be careful to turn the gas out before retiring in future. I had been up all night reading, but I did not mention it to her. Your magazine has been my only companion on many a lonely and lovely photographic ramble since then. Now that I have returned to England, I have a natural desire to try my luck, or skill rather, at one or another of your competitions. Your "Prize Tour" would have suited me to a T, but you say the pictures must have been taken in 1889. This kills me. I am sure you would have competitors from Sydney, Melbourne, Brisbane, and New Zealand, were some alteration made in your terms. You must remember that the Antipodean summer is the English winter, and although pictures can be had in the Australian winter quite as easily as in the English summer, still the "outings" of the societies in Australia are in their summer, because the days are longer, and the conditions of "camping out" are more comfortable. Were you to admit competitors from the Antipodes to your "Prize Tour," whose pictures had been taken within the twelve months prior to June 30th, 1889, that might meet the case. I am speaking from personal knowledge of many New South Wales amateurs, for I was at one time a member of the N.S.W. Amateur Photographic Society, and on the committee.—I am, yours faithfully,

January 11th, 1890.

CORNSTALK.

NOTE.—We will in this case accept the photographs taken in the year prior to June 30th, 1889.—EDS. AM. PHOT.

* * * *

GLAZED SURFACE PRINTS.

SIRS,—I always read with great interest any correspondence which appears in your columns referring to glazed surface prints,

as I have, in common with many others, failed in obtaining the gloss which I admire so much, and which I think admirably adapted to some prints, though on the other hand I must agree with Mr. C. Hethon Lewis that for view work a matt surface is in most cases preferable to a glazed one. In that gentleman's letter he made mention of an enamelled metal plate sold by Messrs. Fallowfield and Mr. Gotz. Will he kindly state for the benefit of others as well as myself the price of those plates, say for half-plate pictures, should they be sold in different sizes, also how he mounts his prints so that they retain that gloss. An answer, I feel sure, will oblige a large number of your readers as well as yours faithfully,

Jan. 13th, 1890.

* * * *

HYDROQUINONE.

SIRS,—I have been using the one-solution hydroquinone developer for some months, and, as a rule, with splendid results, but lately I have had another experience with it. Instead of the developer being clear, and giving clear, quick-printing negatives, it is of a dark purple colour, and gives a negative of a deep yellow tinge, which, of course, hinders printing very much. Also when of this colour it stains the hands almost as badly as pyro developer. I may say that the proportions of the developer are as follows:—

Hydroquinone ..	..	..	..	160	grs.
Sodium sulphite ..	..	..	..	300	"
Carb. potash ..	..	..	..	400	"
Water ..	..	..	..	20	ozs.

Perhaps some of your numerous readers will enlighten me on the subject.—Yours truly,

H. ROWLAND.

January 11th, 1890.

* * * *

GOLD AND PLATINUM.

SIRS,—Last summer I got an idea that a print in gold could be obtained by printing as usual on the Platinotype Company's col l, bath paper, and brushing over it a solution of gold. I tried it and the result was as I expected, a print in a violet-blue tint, due to reduced gold. Is this anything new, as I have not heard of it being done? I intend trying to obtain a rich dark tone by mixing some substance with the gold, but as yet I have had no time to further experiment. The print develops just as in the cold-bath development.—Yours, etc.,

SYDNEY WEISS.

* * * *

FORMATION OF A LANTERN CLUB.

SIRS,—Will you permit me to call the attention of your readers to a step which I trust now to see taken, viz., to bring together, either by means of a club or association, in a practical form, those who are interested in the work of photographic optical lanterns.

I will not here detail the advantages that may possibly accrue from such an association, except to suggest (a) the development and improvement of the lantern itself, (b) to help in popularizing it generally, (c) to enable those who are fond of so delightful and scientific an amusement to become known to each other, and thus develop their common pursuit, (d) to hold in London and the country periodical exhibitions, (e) to facilitate the interchange of photographic slides, and (f) generally to promote lantern work.

The basis of such an association and its rules remain to be formulated. Meanwhile I wish to put plainly through your columns a very pointed but respectful request, viz., will all those who are favourable to the idea, forward to me at 46, Chesilton Road, Munster Park, S.W., or to the Hon. Slingsby Bethel at Chelsea Lodge, Chelsea Embankment, their names and addresses, in order that they may be invited to a meeting or informed of any proceedings that may be taken.—I am, yours very truly,

T. H. HOLDING.

* * * *

PHOTOGRAPHY AT BOULOGNE.

SIRS,—I am sorry to say I cannot inform Col. Verney whether the tax has been removed, as though I wanted to photograph the cathedral very much myself, I could not do so, as I left Boulogne a week before I first intended, and I had put it off till the end.—Yours truly,

Jan. 11th, 1890,

GERALD STRICKLAND.

Winter Work.—XV.

By T. C. HEPWORTH, F.C.S.

ON FRAME-MAKING.

THE amateur photographer who is skilled in the use of carpenter's tools has a great advantage over his fellows, for he can not only fit up his dark-room with all kinds of conveniences, but he can make much of his apparatus with his own hands, and thus be independent of outside help. Those with long purses are apt to decry the efforts of the amateur carpenter, and perhaps naturally prefer to call in professional aid. But in doing so they quite lose sight of the pleasure which a man derives from constructing things for himself, and the advantage of producing results at the expenditure of a few shillings, whilst others will spend as many pounds, and fail to do as well. It may be said that picture frames are so cheap that it is not worth while to attempt to make them at home. But this argument might be applied to a hundred other things besides frames—and even to photographs themselves—for no one can say that nowadays they are not cheap. The true amateur will never listen to such pleadings, for his pleasure is found in his hobby and the thousand and one little employments which it brings to him.

I feel sure, therefore, that many of my readers who have leisure will be disposed to take up the art of frame-making, and will thus be able to beautify the walls of their rooms with the work of their cameras. The power of being able to make a frame will also often induce them to give a welcome present to a friend, and one which will be the more valued because it is of an unusual character.

As a beginning, the amateur frame-maker should confine himself to the purchase of mouldings, which are sold of various patterns in lengths of about 10 ft. A plain, flat oak moulding, with a gold slip inserted beneath the glass, is a safe pattern for a photograph, for it will always look well on any wall. But the most captious will be able to find a pattern and style to suit him, for the different mouldings now obtainable are of the most varied description.

Photographs of an ecclesiastical character will often look well in an Oxford frame, because of its cruciform corners. But it must be remembered that there is a stringent and very necessary law against the admission of pictures so framed to all exhibitions—not because there is any moral wrong in framing a picture in this way, but because their presence entails loss of wall space. An Oxford frame may be likened to an octopus, by reason of the eight projections with which it is furnished, and for which room must be found, unless they are at once ruthlessly amputated. Intending exhibitors must, therefore, eschew the Oxford style of frame, or keep them for home use. They are easy enough to make, and no one who has purchased one as a pattern, and is a little skilled in the use of tools, can fail even in the first attempt at constructing one. The only point where he is likely to be baffled is in cutting the rebate, in which will subsequently rest the picture, glass, and back. For this work, as well as for more general purposes, I have employed a very useful little tool, which I purchased long ago in Liverpool, and which may, for ought I know to the contrary, be obtainable in London, but I have never seen it here, except in my own workshop. It is shown at fig. 1, and is known as a rabbeting tool. It is here shown full size, and its parts will be readily understood by help of the reference letters. The vertical part is round, and made of brass, with an oblique stem springing from it on the right-hand side, which forms the shank to which the handle (not shown in the cut) is attached. C is a set-screw, the duty of which is to hold the cutter *a* tightly in position after it has been adjusted to give a cut of a certain depth. Another set-screw, *b*, controls

the position of a kind of right-angled shoe, which is hollowed out so as to clamp upon the vertical part. This shoe has a flat side facing the cutter, and it will be readily understood

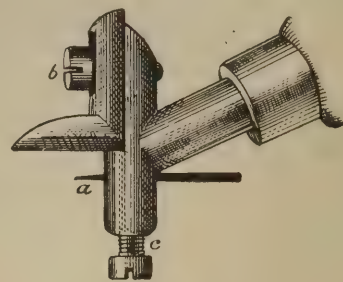


FIG. 1.

that its distance from the cutter can be adjusted to any desired distance. Thus it will be seen that the depth of cut can be regulated, and also the width of the rebate which is cut. In the position in which the tool is shown in the drawing, the piece of wood upon which it is desired to operate would be held rigidly on the edge of the work bench or table, and after the cut had been made to its full depth, by repeated strokes the tool would be turned over so that the cutter acted vertically upon the top face of the same piece of wood. By this means the two cuts would meet, and a square rod would be cut out from the material operated upon, the space occupied by it forming the required rebate. By adjusting the set-screws between the two cuts the width and depth of the rebate can, of course, be varied to any required measurement. This useful little tool is invaluable to the amateur photographer, because it can be applied to so many other purposes. Suppose, for instance, that a carrier is required for the accommodation of a plate in a dark-slide which is far too big for it. This rabbeting tool will soon cut the necessary groove for the reception of the glass after the carrier has been cut out of soft pine. It is also of service in cutting the tongue upon each side of a temporary camera front, and for many other purposes too numerous to specify. Its cost is only about one shilling, and it is so solidly made that it will last a lifetime.

The necessary tools for general frame-making are few, but they should be of the very best quality. Their cost is very little, if the amateur worker be a good enough carpenter to make his own mitre-block and shooting-board. But let him not attempt to make these unless he is a first-rate workman, for if either be the least out of truth, every frame made will suffer for the fault. Both of these necessary appliances can be bought ready made, and I advise that they should be obtained thus, to save both disappointment with results and much loss of temper.

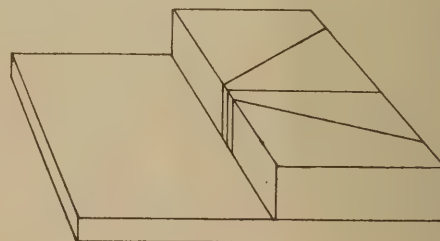


FIG. 2.

The simple mitre-block—whose duty it is to cut off lengths of moulding at an angle of 45 degs., so as to form a mitre joint at each corner of the frame—is shown at fig. 2. It needs but a few words of description, so simple is it in design. It consists of a baseboard, upon which is firmly glued and

screwed from below a somewhat thicker piece of wood, in which are three saw-cuts. One of these is straight across the centre, and the other two are each cut at an angle with it of 45 degs., but in reverse directions. The contrivance, it will be seen, forms a step, upon the lower level of which is placed the wood, or moulding, to be cut. By aid of the middle saw-cut—which now serves as a guide for the saw—the piece of wood thus inserted may be cut straight across, or, by utilising either of the other cuts, at an angle, which will at once render it fit to serve as part of a picture frame.

The other contrivance, pictured at fig. 3, is the shooting-

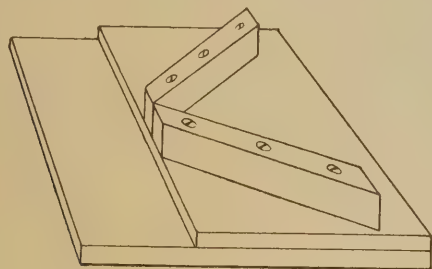


FIG. 3.

board, which needs almost less description than the mitre-block. Here, again, we have a step arrangement, and a means of holding the lengths of moulding which have already been cut on the mitre-block, in such a position that a plane run on its side along that lower step will effectually shave off enough of the cut end to make a clean join with another end which has been similarly treated. I may mention here that if the saw used in the first operation be of the right description, a fine tenon-saw, the necessity for this after-business of shooting—that is, planing—will be obviated, provided that the mitre-block is absolutely true. It must be true not only with regard to correct angles, but also in respect to the saw-cuts, which must be perpendicular to the baseboard, otherwise the frame will not lie flat—that is to say, its parts will not occupy one plane.

There is another form of mitre-block, shown in fig. 4,

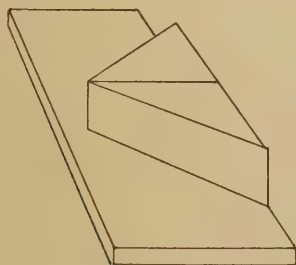


FIG. 4.

which presents some advantages, and certainly it is a very easy one to construct. In this case the saw always occupies the same position in the transverse saw-cut, the pieces of wood, or moulding, being moved to the right or left of it as may be required. The only objection to the use of this instrument is that few persons are educated up to using either hands indifferently. Usually the right hand is used for guiding the saw, and in this case the left hand must be stretched over it to hold the wood whilst it is being cut. Those who use both hands indifferently will not suffer this inconvenience.

It need hardly be pointed out that the plane used for this wood must be square in section, or it will not give a true vertical cut when laid on its side. The actual form of the plane beyond this does not much matter, but it must be sharpened and set to a very fine adjustment. There is a

description of plane made with a single, instead of a double, iron, which does well for the work, but an ordinary "jack" or a "trying" plane will answer the purpose. Still, it is far better to devote a plane to this one purpose, and to use it for nothing else. A form of plane which cuts with great ease is one in which the iron is set obliquely—called, I believe, a bevel plane. All these different forms are made with the handle set in the side, instead of in the top, immediately behind the iron. This side arrangement gives better control over the tool, as it slides to and fro on the lower step of the shooting-board. But the instrument which is better than any for frame-making is a good metal plane. It can be set to cut a far finer shaving than a wooden tool, and it has the advantage of weight—that is to say, when once in motion it does half the work by its own impetus. It is not, moreover, subject to the scratches and other evidences of wear and tear which are common to wooden planes.

(To be continued.)

Chemistry for Photographers.

(Continued from page 8.)

By C. H. BOTHAMLEY, F.I.C., F.C.S.

(The Yorkshire College, Victoria University).

WEIGHTS AND MEASURES.

THE *mass* of any substance is the absolute quantity of matter which is contained in it. It is measured by, and is proportional to, the *inertia* of the substance, *i.e.*, the resistance which it offers to any force which tends to set it in motion if it is at rest, or to stop it if it is moving. Two bodies have equal masses if they have the same inertia, or, in other words, if the same force acting on them for the same time produces the same effect. The particular force which is generally employed for the comparison of masses is the attraction of the earth, or, as it is technically termed, the earth's gravitation.

The *weight* of a substance is the attraction which the earth exerts upon it, and the weights of different substances at the same place are proportional to their respective masses. If one body A weighs twice as much as a second body B, the mass of A is double the mass of B; if it weighs three times as much as B, its mass is three times as great as the mass of B. A set of weights is merely a number of masses of metal or some other substance to which we have given numerical values derived from some unit. When we weigh a substance we compare the attraction which the earth exerts upon it with the attraction which the earth exerts upon our standard masses or "weights," and therefore, since this attraction is proportional to the masses, we compare the mass of the substance with our standard masses or "weights."

It is very important to observe that the mass of a body is quite distinct from its weight. The mass—the absolute quantity of matter which it contains—is invariable, and is quite independent of its shape, temperature, position, etc., but its weight—the attraction which the earth exerts upon it—varies with its position on the surface of the earth, or strictly speaking, with its distance from the earth's centre.

In these articles the weights of different substances will be taken, as is usual, as representing their relative masses.

The term "mass" will also frequently be used, and will always denote the absolute quantity of matter which a substance contains, without reference to its chemical nature.

The *volume* of a substance is the space which it occupies, and is generally expressed in terms of the unit of length. Volume is a property quite distinct from mass, and we frequently compare the volumes of substances without reference to their masses, and *vice versa*.

Units.—In all cases of measurement we must have some unit, in terms of which the magnitudes may be expressed. For example, if we say that the distance across a field is 30, the statement has no meaning, but if we say that it is 30 feet or 30 yards, it becomes intelligible, because the magnitude of the unit (a foot or a yard) is known. So, too, if we say that a certain substance weighs 10, no definite information is conveyed, but if we specify the particular unit by saying 10 grains, or 10 pounds, or 10 tons, we shall then be understood.

Units may be either *natural*, like the unit of time, which is based upon the motions of the heavenly bodies, or *arbitrary*, like the units of measures and weights, which have been selected and established by the decrees of national governments.

Two systems of weights and measures will be described—the ordinary English system, and the French, or metric, system. The exact relation between the two is known, and the knowledge is sometimes useful. Each system is, however, quite independent of the other, and the student may use one system without troubling himself about the other at all. Whichever system is selected must be rigidly adhered to, for if any attempt is made to use both systems concurrently, great confusion will arise.

The English System.—The unit of length is called the *yard*, and is the distance between two lines across two gold plugs in a bronze bar in the office of the Exchequer. The distance is quite familiar. The yard is sub-divided into three equal fractions termed *feet*, and each foot is divided into twelve equal fractions termed *inches*. Each inch may be sub-divided into any number of equal parts.

Volumes are expressed in terms of the unit of length, as a cubic foot, a cubic inch, etc.; and also sometimes in terms of the unit of weight.

The unit of weight is a certain piece of platinum in the office of the Exchequer, which is termed the *pound avoirdupois* (lb.). The pound is subdivided into ounces (oz.) and grains (gr.), which are the only subdivisions used in practice, and also the only subdivisions legalised by Parliament: 7,000 grs. = 1 lb.; 437.5 grs. = 1 oz.; 16 ozs. = 1 lb.

A slightly different system, known as “troy weight,” is used in buying and selling gold, silver, platinum, and other precious metals in the *metallic state*. The grain is the same as in the preceding system, but the value of the ounce and pound are different, and a special subdivision, the *penny-weight* (dwt.), is used.

$$\begin{aligned} 24 \text{ grs.} &= 1 \text{ dwt.} \\ 480 \text{ grs.} &= 20 \text{ dwts.} = 1 \text{ oz.} \\ 5,760 \text{ grs.} &= 240 \text{ dwts.} = 12 \text{ ozs.} = 1 \text{ lb.} \end{aligned}$$

A special system, known as “apothecaries’ weight,” was at one time used for dealing in drugs and chemicals and the compounding of prescriptions. The ounce and pound had the same value as in troy weight, but two special subdivisions, the scruple and the drachm, were used, thus:

$$\begin{aligned} 20 \text{ grs.} &= 1 \text{ scruple.} \\ 60 \text{ grs.} &= 3 \text{ scruples} = 1 \text{ drm.} \\ 480 \text{ grs.} &= 24 \text{ scruples} = 8 \text{ drms.} = 1 \text{ oz.} \\ 5,760 \text{ grs.} &= 288 \text{ scruples} = 96 \text{ drms.} = 12 \text{ ozs.} = 1 \text{ lb.} \end{aligned}$$

Since the Act of Parliament in 1864, this system of weights is no longer recognised, and the avoirdupois pound, ounce, and grain must be used in all dealings in chemicals, drugs, etc., just as in the case of other substances. All weights less than an ounce should, therefore, be expressed in grains; the scruple and the drachm are not used, and 1 oz. contains 437.5 grs.

Fluid measure is a method of measuring volume which is applied exclusively to liquids. It is intended to represent the volume of a definite weight of water at the particular temperature of 62 degs. F. The unit is the *gallon*, which is the

volume or bulk of 10 lbs. (70,000 grs.) of water at 62 degs. F. The useful subdivisions of the gallon proper are the quart and the pint, to which may be added the fluid ounce, thus:

$$\begin{aligned} 437.5 \text{ grs.} &= 1 \text{ fluid oz.} \\ 8,750 \text{ grs.} &= 20 \text{ fluid ozs.} = 1 \text{ pint.} \\ 17,500 \text{ grs.} &= 40 \text{ fluid ozs.} = 2 \text{ pints} = 1 \text{ quart.} \\ 70,000 \text{ grs.} &= 160 \text{ fluid ozs.} = 8 \text{ pints} = 4 \text{ quarts} = 1 \text{ gallon.} \end{aligned}$$

So far it will be seen that there is a simple relation between fluid measure and weight. The fluid grain is the bulk of the grain of water, the fluid ounce is the bulk of the ounce, the pint is the bulk of 20 ozs., and the gallon is the bulk of 10 lbs.

In the subdivisions of the fluid ounce, however, which are still used by pharmacists, and also very frequently in the making up of photographic formulae, this simple relation no longer holds. Unfortunately, when the fluid ounce was altered by Act of Parliament from the bulk of 480 grs. to the bulk of 437.5 grs., the original subdivisions were retained, and we now have the fluid ounce of water, weighing 437.5 grs., divided into 480 equal parts which are termed *minims*. Another sub-multiple employed is the fluid drachm.

$$\begin{aligned} 60 \text{ minims} &= 1 \text{ fluid drm.} \\ 480 \text{ minims} &= 8 \text{ fluid drms.} = 1 \text{ fluid oz. (437.5 grs.).} \end{aligned}$$

It will be seen that a minim is the bulk of only 0.91 gr. of water, and hence there is no simple relation between them. If the student decides to use the English system, he will do well to avoid minims and drachms altogether, and to use measures graduated in *fluid grains*, expressing as far as possible all weights in grains or ounces, and all measurements of liquids in fluid grains or fluid ounces.

(To be continued.)

Photographic References.

By MAJOR J. FORTUNÉ NOTT.

APPARATUS.

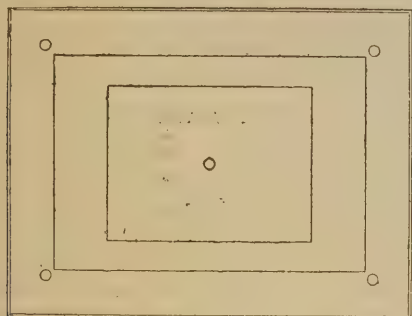
(Continued from page 12.)

Hints Respecting the Focussing Screen.—An oiled rag rubbed over the rough surface of the glass occasionally, by making the graining less perceptible, facilitates careful focussing. Some small pieces of very thin glass, such as that used in mounting objects for the microscope, cemented at different points on the ground surface of the screen with Canada balsam, supply the means of focussing in cases where the utmost possible sharpness of image has to be obtained.

Manufacturers might with advantage to photographers rule the focussing screens attached to their larger-sized cameras into sections that would enable views to be arranged thereon within the exact compass of any of the smaller-sized plates it is occasionally found serviceable to employ. As these sub-divisions of the screen are not only frequently useful, but enable economy to be practised, the purchaser of a new camera, if it is above the dimensions of a half-plate, is recommended to make them himself with a fine pen. The illustration on the following page shows the way a screen may be ruled with advantage.

As this cut is drawn to scale one-fourth the size, and represents a $6\frac{1}{2} \times 8\frac{1}{2}$ plate subdivided into half and quarter plates, it can be used for the purpose of obtaining the correct measurements. The round spots show where the clearer points formed by the cemented glasses should be placed.

If the focussing screen gets broken, away from a town where it can be replaced, some substitute must be sought for. A celuloid film after immersion in a hypo bath, or one that has had the emulsion removed by hot water, can be utilised. An old glass plate, cleaned and subsequently dabbed over with putty to give it opacity, may be made to



serve the purpose. Even a piece of tissue paper may be successfully employed. A very little ingenuity can soon supply the desideratum. At a pinch a small piece of the broken focussing screen itself, held in register by the hand or fastened in position with a sheet of paper, can be made to answer the purpose. The writer adopted this method on one occasion, and although great care had to be exercised, which resulted in some loss of time, the negatives were in every case so perfectly satisfactory that the dread which had previously been felt now and again, when travelling, of the focussing screen sustaining damage, and so rendering the camera unavailable, has never since been experienced.

The Bellows.—This part of the camera should be constructed of Russian leather, which is both light, durable, and ornamental. Another advantage is claimed for this material by travellers in tropical countries, who say that it is less liable to the attacks of certain destructive insects than many other kinds of leather. In some cheap forms of cameras, chiefly those of American manufacture, the bellows are made of very unsuitable material, and as this part of a camera is a very important one, the would-be purchaser of photographic apparatus should give it most careful scrutiny.

Apart from the question of the material used in its construction, the interior should be *dead black*, in order to effectually prevent any stray rays of light from the lens being reflected on to the exposed plate, which would tend to produce a slight but very undesirable veiling of the negatives, that, of course, will only become apparent during their development. The length of the bellows will in many cases be found to determine the length to which the camera can be extended, and upon this point the remarks under a previous heading are applicable. The bellows should, of course, be capable of keeping the inside of the camera perfectly dark, and a thorough testing is the only way to prove whether it is entirely free from defects. It should be borne in mind that the most minute puncture therein, so small that the closest scrutiny may easily fail to detect it, is sufficient to render nugatory all other efforts to produce clear negatives. The shape of the bellows, whether it be of the square or conical pattern, is a somewhat unimportant detail. As before said, no folds, under any circumstances, should intercept any of the rays between the lens and the plate. Once this point is assured, the pattern preferred becomes a matter of taste. Cameras, however, made with the conical form of bellows can generally, for apparent reasons, be closed into a smaller compass than those having the other shape.

Hints respecting the Bellows.—After a camera has been acquired, the bellows become its weakest feature, for in all

probability wear and tear from usage will begin to tell thereon sooner than upon the parts constructed of wood. It should therefore be kept carefully protected, and be periodically examined. As it is also the part most prone to the collection and retention of dust—that arch enemy of good photography—the interior folds should be well dusted every time the camera is taken out for use.

These are, of course, minute details, and as they are here enumerated for the benefit of tyros in the art, it may be as well to point out a fact which is a recognised one by all producers of really good photographs, namely, that first-class work with the camera, or, for the matter of that, in every other branch of the art, can only be accomplished by strict attention being paid to certain details which might by the uninitiated be considered as being of the most trivial character. This feature of photography will, it is hoped, be deemed a good and sufficient excuse for any stress which has been, or on subsequent occasion may be, placed upon sundry minute particulars in cases where it can be shown that they are nevertheless capable of exerting important influences. An instance in point was lately discovered by Mr. Lyonel Clark, who found that the quality of the sensitive plate was deteriorated by exposure in a camera which had been kept in a damp place, the influence exerted by the moisture being sufficiently powerful to cause a fogging of the plate after it had been subjected to it for only a few minutes. The remedy for this previously unrecognised source of trouble is obvious.

If by any accident the bellows becomes perforated, it can easily be temporarily repaired with a little court-plaster, or, if this is not at hand, a postage stamp may be utilised to tide over the difficulty.

Camera Stand.—Except for studio work, this piece of apparatus is generally made in the portable form of a tripod, with the legs folding up. It can safely be asserted that a considerable improvement on this form of stand will have to be made before one that can be called perfect is placed at the service of photographers. The desideratum is to obtain a support, firm, fairly rigid, capable of being easily extended to a good height or lowered as required, and at the same time can be closed up, when not in use, into a compact and convenient shape. The lower joints should have extensions which slide up or, down, and when selecting a tripod it should be examined to see that these sliding attachments work easily, and can readily be clamped at any height. Well-seasoned wood is required in the manufacture of these stands, otherwise serious annoyance may be caused by the sliding parts refusing to move. Of course, the fewer joints there are in a tripod the firmer it will be; but here again something must be sacrificed for the sake of portability. A tripod that folds up compactly, is easily got ready for use, and of the required height is a serviceable article. If not all that it might be in the matter of stability, care when using it, and following some advice upon this point—which will be found in the practical hints regarding the employment of the camera, to which it is proposed to draw the reader's attention in another part of this work—will surmount the drawback. It is as well to have more than one tripod, and to have them varying in height, but if one is to be selected for all work it should be of sufficient length to allow of its being set up in a rigid manner, at a height that will enable the focussing to be accomplished without any stooping on the part of the operator.

Metal tripods made of tubing in which the parts slide one into the other after the manner of a telescope, and are fastened in position when extended by screw joints, are not recommended. They shut up into a comparatively small compass, but this is their only

attractive feature. They are far from rigid, and on a warm day the metal is liable to expand, which so tightens up the screws that they can defy all efforts to loosen them.*

(To be continued.)

Rambling Papers.—VIII.

By W. K. BURTON.

THE PLATINOTYPE PROCESS.

OF the later developments of platinum printing I have not here (in Japan) had the opportunity of having any experience. Nearly a year ago a few scraps of the "printing-out" paper were kindly sent me by a friend, but more to see whether it would stand the long journey or not than for practical purposes. It was merely wrapped in some yellow paper and enclosed in a letter, and it speaks very well for the keeping qualities of the paper that it gave quite brilliant prints, although it had been enclosed as described for nearly two months. It has been found impossible to send the "cold bath" paper here, and I do not think that I am abusing confidence in stating that the reason is that the coated paper will not keep well enough to be sent as far as this, and that Mr. Willis has told me (writing about the beginning of 1889) that, although the paper could be coated perfectly by machinery, he had not yet been able to completely overcome the difficulties of coating it by hand, so that there was no use of sending out the materials. I have, on the other hand, seen lately a great deal of the working of the old "hot bath" process, and, to tell the truth, do not want anything much better. The materials have been sent out here, and the paper has been coated as it was wanted. The result of experience in the coating of the paper is that I should recommend all who work on any but the very smallest scale to coat their own paper. There is no need for me minutely to describe the process, as it is so fully and lucidly described in the printed instructions sent out by the Platinotype Company. It consists in evenly coating the surface of the paper, laid, by preference, on a sheet of plate glass, by sponging over it a mixture of iron and platinum salts made up immediately before they are wanted, allowing the sheet to get nearly surface dry, and then rapidly drying by the aid of heat. A little manipulative dexterity is needed in spreading the solution, but it is very soon acquired, and there are great advantages in preparing the paper just as it is needed. Platinotype paper will sometimes keep well for a long time. I do not know for how long, but certainly for some months, but there appears to be some uncertainty in the matter, and there can be no doubt that better all-round work will result by using only freshly prepared paper.

I do not think that the dampness in England is ever so great as to make platinotype work, including the coating of the paper, impossible. Indeed, it is not right to say that even here, where the dampness is sometimes excessive, and is accompanied by great heat, it is ever absolutely impossible to work the process, but we came to the conclusion that, as it was very difficult to get uniformly good work when the weather was both hot and damp, it would be better not to attempt to work at all at such times, and I should certainly

advise the amateur who never needs to work continuously, and who can generally, more or less, choose his own time for doing any particular kind of work, to choose fine, dry, and temperate days for platinotype work. In such weather he ought to be able, coating his own paper as he needs it, to turn out work of uniformly excellent quality with a percentage of failure little, if at all, greater than in ordinary silver printing. The negatives must not be very thin, but need not be denser than is necessary to give a *vigorous* silver print. The main requisite is that the gradation, or, as I believe artists call it, the "tonality," be good.

MATT SURFACES FOR PHOTOGRAPHIC PRINTS IN GENERAL.

I think that as much credit is due to Willis and the Platinotype Company for the way in which they have educated the public taste, in making them appreciate a matt surface and a delicate black for photographs, as for anything else. It has already been remarked, in one of the photographic journals, how that, when first platinotype was introduced, the objection to it was the "dull" surface and the black colour, and that the generally expressed desire was that it should be made to yield a photograph more nearly resembling the common silver print on albumenized paper; but how that, some years ago, when the Eastman Company introduced a quality of gelatino-bromide paper that gave prints with a perfectly matt surface, it was, by many, chiefly admired because it would give prints *indistinguishable from platinotype prints*. Now the undoubted superiority of a matt surface artistically, is almost universally recognised, and, even in the case of silver printing, there is a tendency to give up the gloss of albumen. This is, I think, a thing to rejoice over. Not only is any gloss objectionable, but the material generally used to produce it, namely albumen, undoubtedly militates against the stability of silver prints, never, I fear, things that can be looked on as really permanent.

The chief difficulty in working the silver printing process on matt-surface paper is that, with the comparatively thin negatives that are common in these days, there is difficulty in getting anything but very dull prints. Greater density of negative is needed than when the paper is albumenized. This difficulty is, in great measure, overcome by using the "ammonia-nitrate" process, which gives more brilliant prints than the ordinary process with a neutral bath. Probably most of your readers are familiar with the ammonia-nitrate process, but I give a brief description of it, as some probably are not.

THE AMMONIA-NITRATE PROCESS OF SILVER PRINTING.

The paper generally used is "Saxe," but any very pure paper may be used. Very beautiful results can be got with the finer qualities of Japanese paper, but it is rather difficult to work. It is very tough when *dry*, but becomes very soft and unmanageable when soaked in water. For large work exceedingly artistic pictures will be got by using Whatman's drawing paper.

Salting Bath.

Chloride of ammonium	60 grs.
Gelatine (any fairly pure sample)	30 "
Water	20 ozs.

The paper is soaked in this till it has quite expanded, and is then dried, preferably without the aid of heat.

To make the sensitizing solution, we may take 1 oz. of silver nitrate, and dissolve it in 5 ozs. water. We then divide the solution into two equal parts, and to one of them add strong ammonia till the dark precipitate first formed is redissolved. The solution is then divided into two equal parts,

* NOTE.—This fact is fully borne out by experience of the writer, who possessed one of these metal tripods. On one occasion the legs could not be unscrewed, although some exceptionally strong looking labouring men tried their hands at the work. The tripod had therefore to be carried home in its extended form, and was the source of considerable annoyance. Its stability was also inferior to the cheapest and most common wooden article.

and to one there is added a drop or two of litmus solution,* enough to make the silver solution distinctly blue. Nitric acid is then cautiously added till the colour is changed to red. The two portions of the solution are now added together, and the bulk is made up to 10 ozs. with water. This is the sensitizing solution, and to sensitize the paper it must be brushed over the surface. A sheet of paper is laid on a clean board, or better, a sheet of plate glass. The board is inclined a little, and the solution is brushed over the paper with a broad soft brush, or a cotton-wool pad, beginning at the upper edge and working downwards in broad sweeps, then tilting the board so that the direction of the inclination is at right angles to what it was before, and working down again in the same way, the second sweeps, of course, crossing the first. The paper is laid face upwards on one side for a few seconds to allow the liquid to soak into it, and then the sensitizing is repeated a second time.

The paper is next dried, a gentle heat being used if it be thought fit to hasten the process; it is then printed and toned in the usual way.

The paper keeps badly, and must therefore be sensitized, printed, and toned all on the same day. It will keep indefinitely after salting, but before sensitizing.

The trouble of working this process is, undoubtedly, considerable, but is, I think, amply repaid by the beautiful results.

I have described this process much more fully in my "Practical Guide to Photographic and Photo-Mechanical Printing Processes," published by Marion & Co., the formulæ being taken from Hardwich, but I have since found that I get better results with a larger quantity of gelatine than is there recommended. I, moreover, consider the strength of silver solution according to Hardwich's formula unnecessarily great. As regards gelatine, I have, indeed, used two, or even three times as much as that recommended above, and that without getting any objectionable gloss, and with, I think, some increase in the brilliancy of the resulting prints.

(To be continued.)

"Thursday Evenings" at the Camera Club.

BY ONE OF OUR STAFF.

SIR GEORGE PRESCOTT presided at the meeting of the Camera Club on Thursday evening, the 9th instant.

The great business of the evening was the reading of a paper by Mr. Walker, of the Eastman Company, on the new transparent celluloid film for use in the roller slide. And truly the matter is one of the greatest possible importance to amateurs generally, but more especially to those who propose to take their holidays abroad far from the haunts of the seller of plates of English sizes, and who yet objects to carrying several dozen of plates about with him, a matter of some importance when long journeys on foot have to be made. It may be said that it is not absolutely necessary to take a large number of plates, because half-a-dozen good pictures are better than several dozen indifferent ones. We quite agree, but it must be remembered that, after all is said and done, it is only the few who can make sure of the half-dozen good negatives from half-a-dozen plates, and those ill-fated amateurs who are almost compelled to take several shots to get one good one must be provided for.

However, as Mr. Walker pointed out, the advent of the flexible celluloid film marks the commencement of a new era, the end of

which no man can foresee. Great objections were raised to the Eastman stripping films when they were introduced, and people found all kinds of difficulties in their manipulation, but he had constantly pointed out to them that the difficulty was almost nothing when the printed directions were rigidly adhered to. The consequence of this fact being persistently pointed out was that many persons, who previously had apparently been trying to find out everything they should not do, followed the instructions and were successful. At the present time Messrs. Eastman were developing and stripping films at the rate of 25,000 a week, and the work was done by lads under sixteen, who had had no previous experience of manipulation, and only one demonstration of what was necessary to be done. Most of the results were fairly good printing negatives. Mr. W. K. Burton had admitted that he could do nothing with the films till he followed the instructions, and then he succeeded. With regard to the new film, Mr. Eastman felt that a proper and good roller slide for it was a *sine quâ non*, and Mr. Walker enumerated about twenty-five of the points which were required in such a slide, and which he claimed that the Eastman slide practically contained. The new film did not require exceptionally delicate treatment, but cut rolls were never recommended except for single exposures with small stops, as no device had yet been discovered which would hold such a film perfectly flat in the focal plane. The old pattern of roller slide would carry the film, all that was necessary being the loosening of the tension spring, which could be done with a pocket knife. Nothing could be simpler than the development of the film, as it lay flat at the bottom of the dish, and very little solution was necessary to cover it. But with regard to such sizes as 10 by 8, strips were provided at the side of the dish which would hold the film flat. The development might be by any approved formula, though they recommended their own, and the only expedient they had found necessary for drying was to hang the film up by pins stuck through two corners. He would strongly advise them not to use the glycerine bath in this country, where there was such a damp climate, though in drier countries there might be no objection. He showed some specimen negatives (very good ones) which had travelled about through many countries with little effect upon themselves. In some of the films there had been found markings which appeared to be due to an electrical discharge, having the appearance of spots from which tree-like forms radiated; and in others there was what appeared to be a kind of lap in the emulsion, though it was not a lap. Both of these, it was hoped, would be obviated at an early date. In conclusion, he hoped that the members of the Camera Club would help by their criticisms and experiments to find the cause of any defects and their cure.

Mr. Francis Cobb expressed disappointment that Mr. Walker had not shown them a 10 by 8 negative on the film. He was afraid that there would be some difficulty in making so large a film lie flat in the camera. Dr. Lindsay Johnson showed a specimen of some celluloid which he had made which was free from the markings which were to be found on the Eastman film. He did not think, however, those marks would matter for ordinary work, though they might not be good for microscopic or astronomical work and for big enlargements. Mr. Rodgers spoke well of the film so far as his experience went. He made some exposures on the previous Saturday, which was a vile day, and the results were, under the circumstances, good. The film was not particularly suitable for hydroquinone, but he never could develop well with hydroquinone. With the pyro and soda developer he succeeded very well, and he was perfectly satisfied with the film. He had found the tree on some of his negatives, on three out of eleven.

Mr. Shipton made his exposures on Monday, which was a worse day for the purpose than Saturday, but he also got negatives which spoke well for the film, although he thought the film would not lie quite so flat in the whole-plate size as did the old stripping film. He also had found the curious tree-like markings on some of the negatives. Could not the manufacturers locate the lap, so that the portion of the film containing it could be avoided? There was no doubt the Company were working on the right lines, and it would be astonishing if they had got a perfect article at once. Mr. Sturme, who tried a 10 by 8 roller, did not find any undue cockling, and Mr. Corbould pointed out that pinning by the four corners prevents curling during drying. Dr. Patterson raised a very important point when he asked if the

* It is commonly directed that litmus paper be used. I, however, prefer, whenever the presence of the small quantity of litmus solution will do no harm, to test for acidity by the addition of it to the liquid to be tested. The test is then much more easily done, and is more delicate.

films would retain their flexibility after they had been on the roller for some time.

Mr. Lyonel Clark found the film very rapid, though he used it on a worse day than either of those which had been mentioned. He had come to the conclusion that the tree-like markings were due to an electrical discharge caused by the friction of the emulsion on the celluloid in the rapid unwinding of the film, and had secured immunity therefrom by unwinding slowly. The film was as clear as they could desire for ordinary purposes, and was as easy to develop as a dry plate. He would like to see something in the nature of a double-back to carry two films, for the purpose of those who worked in their back gardens and other artistic places, and only made a few exposures.

Mr. Pringle, who had not yet developed his exposures of the film, also strongly deprecated the use of glycerine, whilst Mr. Bourne suggested that the markings were due to an incipient fungus.

Mr. Walker expressed himself highly gratified at the kindly criticisms which had been made upon the film, and said that Mr. Eastman, for reasons best known to himself, had decided not yet to make a larger size than 10 by 8. A brush was also a good thing to use for development on the grounds of economy and cleanliness. He most emphatically disclaimed any part in the invention, which he said was entirely due to Mr. Eastman and Mr. Reisenbach. They were proposing to put automatic recorders and locking apparatus to some of the slides. He did not know whether there was any lack of permanent flexibility, but did not think Mr. Eastman would have put the film on the market if there were. He would like to see a film carrier for the film, but did not see how it was to be done, when he remembered how the dimensions of the backs varied.

The meeting concluded with a vote of thanks to Mr. Walker for his paper.

The subject for Thursday, January 23rd, is "English Church Architecture as a Subject for Photography," when a paper will be read by the Rev. T. Perkins, M.A.

Our Contemporaries at Home and Abroad.

ANTHONY'S *Photographic Bulletin* (New York), in its editorials, says, "Perhaps one of the oldest amateur photographers in America is ex-Judge Dobbin, of Baltimore, who has just passed his eightieth birthday, and is as enthusiastic about it as the youngest member of the Baltimore Club. He has been interested in the art from the earliest days of the daguerreotype." There are articles on the "Semi-centennial of Photography, by the Photographic Association of Brooklyn;" "Photographic Exhibition at the American Institute Fair;" "Mrs. Christmas," a story; "Action of Light on Silver Chloride," etc.

L'Amateur Photographique (Paris) concludes its review of the past year thus: "We shall endeavour, under all circumstances, to merit the support of our readers, and to justify more and more in their eyes our motto, which ought also to be theirs, 'Always do the best.'" The number contains the second lesson in "Photography and its Application to the Industrial Arts," a continuation of the article on "The Products and Customary Operations in Photography," "Transparencies in Prussian Blue," etc.

The *Beacon* (Chicago), in "Words from the Watch Tower," says, "Let me suggest a question as to the wisdom of giving so much rope to the egotistical meanderings of Dr. P. H. Emerson. Those who have read his book and know how he sneers at all the great names, both ancient and modern, who have brought art to the degree of perfection which it has reached, and that he esteems the ludicrous emanations of Whistler's brush worthy of all praise, will be able to truly estimate his ability, or rather inability, as a critic; but those who have not seen the book, and who are not aware of the laughing-stock he has made of himself in art circles, may be led to form a false impression of the works of the men he tries to belittle, not one of the latches of whose shoes, from an art point of view, he is worthy to untie." There are also articles on "How to Save your Waste," "The Optical Lantern" (continued), "Photo-mechanical Printing Methods" (continued), "Carbon Printing" (continued), etc.

The *British Journal of Photography*, in an article on "Advances in Pellicular Negatives," referring to the Eastman film, says,

"What the new claimant for public favour will in all probability do will be to kill the 'stripping film,' at least in its application to small-sized roll-holders, because of the immunity it confers in stripping the negative from off its supports after the development and fixing have been completed. Not that the operation of stripping a gelatine pellicle from a paper support is either difficult or uncertain, but still it involves a certain amount of trouble." Articles are given on "Oil Lanterns for Enlarging or Projection," "Instruments in 1889 for Celestial Photography," "The New Benzoline Limelight" (continued), "Platinotype Printing," "Remarks on the Autoglyphic or Half-tone Engraving Process," "Litho-Heliogravure," etc.

Bulletin de la Société Française de Photographie contains a report of the general meeting of the Society on the 6th December, preceded by a photogravure of M. Claude-Marie Ferrier; an article on "Development by Eikonogen," in which M. Leon Vidal says, "Eikonogen is a developer possessing considerable advantages, and it is more easy of manipulation, especially for the amateur, than the developers generally in use."

Inventions says, "Amongst new Yankee inventions is a photographic camera which has been devised by Mr. Geo. S. Moler, Ithaca, N.Y. This is a camera more especially designed for instantaneous work, in which provision is made for storing and manipulating for exposure a series of dry plates, whereby a succession of photographs may be taken with great rapidity, and the plates used in regular order if desired."

The *Photographic News*, dealing with the question of copyright, says, "The manufacture of as many negatives as possible in one day is the aim of the average portrait photographer, and if he wishes to increase his business, advertisements are not to be despised. We therefore contend that the advertising of a photographer's name in a newspaper is a *quid pro quo* in the cases we have in our mind, namely, where the portraits of nonentities are taken in the ordinary way of business, and the photographer has been already paid for making the negative." There are articles on "British Photographers and Foreign Fortifications," "The late Col. Russell's Contributions to Photography," "Repairing Broken Negatives," "The Progress of Quinol Development," "Photographing Lightning," "Photography in France," "Cold-Weather Notes," etc.

The *Photographic Review*, in an article on "Stereoscopic Photography," says, "We think that it is in views, interiors, and reproduction of works of sculpture, etc., that the revival of the stereoscope is, if anywhere, to be looked for. . . . At all events, if photographers, and especially amateurs, can be made alive to the beauty and advantage for many subjects of a stereoscopic representation, there is hope for a considerable revival of this too long neglected product of photography." There are some articles on "Printing on Rough Drawing Paper," "Vignetting Silver Prints," "Errors in Lenses as Affecting Definition," "Artificial Plate Marks," etc.

The *Photographic Times* (New York) contains a photogravure from a negative by Mrs. Jeanette M. Appleton, entitled "A Country Lane." It is a charming picture, and admirably reproduced. In its editorial notes, it says, "Before the Chemical Society of Washington, Mr. R. Hitchcock read an interesting paper upon a Japanese product which might be of use in photographic manipulations. 'Japanese lacquer,' obtained from a tree, *Rhus Vernicifera*, D. C. The chief substance we have to rely upon for our dishes and cabinet ware to protect them from damp or the penetration of water is shellac, but the lacquer in question appears to possess advantages not known in the use of the Indian product. Mr. Hitchcock states that it gives a surface to wood which is hard but not brittle; takes a polish not to be excelled and which lasts for centuries. It is proof against boiling water, alcohol, and, indeed, seems to be insoluble in any agent known. It is the best possible application for laboratory tables. He had had in use a set of photographer's developing trays for more than a year, and they were excellent and cheap. One drawback, that of being poisonous, will not go for much with photographers, we think." Articles: "Electric Light in Photography," "Photography from a Woman's Standpoint," "Preparation of the Positive Printing Bath," etc. Also index to the recently-completed volume.

Photography, in an article on "Printing Papers—Colour and Surface Quality," says, "We are aware that there are some who may not admit the impeachment of albumenised silver paper on the score of the displeasing colours it yields under gold toning, but that alone with us is quite sufficient to condemn it, without

any consideration of the still more reprehensible offence it pleads guilty to, namely, gloss—a point we shall refer to later on. Further, this unhappy paper, although it may show a very good curve for gradation, appears to give a very unnatural effect of light relations in most landscape pictures." Articles: "Enlargements at Exhibitions," "Printing in Silver on Thin Japanese Paper," etc.

THE *Scientific American* draws attention to an improved flash-light lamp, the invention of Dr. John J. Higgins. It is intended to burn alcohol or gas. The fact of discharging once prepares it for the next flash.

THE *Studio* (New York) has an article of some length on the question of "The Poverty of Millet," and includes therein a letter from Theodore Child to the *Sun* on the subject, which concludes, "In plain words, Millet's widow is quite able to take care of herself, and neither deserves nor appeals for pity, sympathy, or charity." The latter further states that she has an income of 1,200 dols. a-year, and only one child, a daughter, dependent upon her, all her other children providing well for themselves. The article says, "The fact that in the course of his life Millet received a considerable sum of money for the sale of his pictures, does not settle the matter. There were long gaps between the prosperous times, and too often the lean kine ate up the fat kine, the years of moderate plenty had to pay for the years of privation." There are also interesting articles on the exhibitions of the Salmagundi Club and the Architectural League, and on the American pictures at the Paris Exhibition.

Societies' Meetings.

BATH PHOT. SOC:—A meeting was held on Wednesday, January 8th, Mr. Pumphrey, President, in the chair. The minutes having been read, and presentations and other announcements made, the Chairman welcomed Mr. H. Summer Gates, Hon. Secretary, Cambridge Camera Club, U.S. Mr. Gates returned thanks in suitable terms, and said he had considerable experience with magnesium flash-light work in America. As a rule they worked a larger flame than here, and more metal was burnt, but the light so obtained was diffused through a screen, which softened the deep shadows. He would send prints for the members to see. The Hon. Secretary, W. Middleton Ashmead, drew attention to a series of large carbon photographs of various tints (same subject, "Mary Anderson") and several other of the Autotype Company's productions, lent by Mr. Rosen. The Chairman said it was desired he should make a few remarks on flash-light photography before the proposed experiments were made. He regarded the process as the complement to instantaneous photography, but reverse as to method. In the one, closing the camera rapidly was a *sine qua non*, in the other the light commences and ceases with an instantaneous flash. Such a light we find in the combustion of the metal magnesium. The old form of thin ribbon of metal gives a powerful light almost from a point, and deep shadows then become a trouble; but by spreading the powdered metal over a large surface, such as a spirit flame, a broad expanse of light is emitted. Several cameras were then arranged in line, the President and others volunteered to be photographed, and a good many charges of magnesium were consumed. The apparatus, which belonged to Mr. Spurge, was manipulated by that gentleman, and several negatives were developed and shown to a large and appreciative audience.

BIRMINGHAM PHOT. SOC:—Ordinary meeting held at the club rooms, Grand Hotel, Birmingham, Mr. E. Howard Jaques, Vice-President, in the chair. The Chairman said that the Council had decided to give an order to Mr. Place for a club lantern, at a cost not exceeding thirty guineas, and that the annual exhibition would be opened to the public on Tuesday and Wednesday, the 21st and 22nd inst., at the Temperance Hall, Temple Street, the price of admission to non-members being fixed at sixpence each. Mr. H. J. Aubrey was elected a member. Mr. C. J. Fowler then gave his paper, "Notes on the Summer Excursions," which was illustrated by a large number of lantern slides made from the negatives taken by members. The excursions were to Yardley Wood, Dudley Castle, Colleshill, Berkswell, Warwick, Shakespearian villages, Worcester, Dovedale, etc. The following gentlemen, besides the lecturer, contributed their

quota of slides: Messrs. Middleton, Pickard, Manley, Longmore, Griffiths, Southall, and Leeson. Mr. W. J. Harrison threw some pictures on the screen which were made on celluloid film. This, we believe, is the first time the new film has been publicly exhibited.

DARLINGTON PHOT. SOC:—The usual monthly meeting of this Society was held on the 13th inst. Mr. E. Ensor presided. Mr. L. W. Williamson was elected a member of the Society. An exhibition of lantern slides executed by the members was given. Over 120 slides were shown, many of which possessed considerable merit.

DEVON AND CORNWALL CAMERA CLUB.—The Devon and Cornwall Camera Club held their first lantern-slide competition on Monday, 16th Dec., at the Club Rooms, Athenæum, Plymouth. Mr. R. Murray took the chair, and the Hon. Treasurer took charge of the club lantern. A numerous and varied assortment of lantern slides was then shown in rapid succession; and on examination of the voting papers at the close, it was found that Mrs. Carnell had been awarded first prize with sixty-one votes; Mr. R. Murray taking the second prize with forty votes. A large proportion of the lantern slides shown were heartily approved. Mrs. Carnell's "Breaking Waves" and Mr. Murray's "Snow Scenes" were especially worthy of mention. Messrs. Worth's "Colley," Tweedy's "Old Boat," Burnard's "Woodland Scene," Micklewood's "Huckworthy Bridge," Dr. Aldridge's "Falls of Don," and a "group" by Miss Keen, also received commendation. A number of slides (not for competition) made by Mrs. Carnell, Messrs. Micklewood, Murray, and others, were afterwards shown, some being copies of "Leech's Sketches in *Punch*," creating great amusement. A very great general improvement in the quality of the work was noticed; and this was attributed to the attention paid to the lecture on lantern slides recently delivered before the members of the Club by Mr. A. Pringle, and by which it was evident that the members had largely benefited.

DEWSBURY AM. PHOT. SOC:—The annual meeting of the society was held on the 9th inst., under the presidency of Mr. T. G. Beaumont, when the report on the year's work and outings was read by the Secretary. The society is in a flourishing condition, and has a substantial balance in hand. The society has purchased a lantern by subscription, and slides were shown through it during the evening. Mr. T. G. Beaumont was elected President for the ensuing year, Mr. E. Scargill, Secretary, and Mr. Thornes, Treasurer. The usual votes of thanks to the outgoing officers were passed.

HACKNEY PHOT. SOC:—The usual meeting was held on January 9th, when Mr. Fred H. Evans read his paper on "Photo-Micrography," Dr. Gerard Smith, the President, in the chair. After pointing out its advantages, over a hundred slides were shown upon the screen, the most interesting being a series of very beautiful subjects taken with dark ground illumination, Foraminifera, Polycistina, wood sections, whole insects, coral-lines, Ectivus spine sections, etc. The physiological slides were also highly praised by medical members present as of special value. The specimens of insects and parts of insects were of unusual clearness and sharpness, which proved the efficiency of the lecturer. The formula used by Mr. Evans, of which he spoke most favourably, was a slight modification of one given by Mr. J. B. B. Wellington. The usual vote of thanks was accorded the lecturer. The Secretary announced that the society's first album was ready for inspection. This society is just seven months old, and has just one hundred members. Next meeting on 23rd inst.; Mr. F. W. Harton will read a paper on "Flash-Light Photography."

HARTLEPOOL AND DISTRICT AM. PHOT. SOC:—The ordinary monthly meeting was held in the society's rooms on the 9th instant, the Rev. J. Patterson in the chair. The subject of the evening's paper was "Enlargements on Eastman's Permanent Bromide Paper." The lecturer, Mr. H. M. Smith, of Huddersfield, afforded his audience a great treat by the able and instructive manner in which he dealt with the subject. The lights having been turned down, Mr. Smith gave a practical demonstration of the entire process, and proved himself as efficient in practice as in theory. In the discussion which followed, Mr. Smith attributed his success to the great attention he paid to what were called the small details of the process, and particularly impressed upon his hearers the necessity of the greatest attention being paid to them. The new Kodak (No. 2) and specimens of negatives on the celluloid films were handed round, and the improvements and advantages explained. A most enjoyable

evening was brought to a close by a hearty and unanimous vote of thanks to Mr. Smith and the Eastman Company. The next being the general annual meeting, will be held on Tuesday, the 11th February, when the "Home Portraiture" pictures and slides, kindly promised by the proprietors of the AMATEUR PHOTOGRAPHER, will be exhibited.

LEWES PHOT: SOC:—The ordinary meeting was held on Jan. 7th, Mr. J. Tunks, Vice-President, in the chair. The balance-sheet of the Lewes and Sussex Photographic Exhibition was read, showing a balance in hand of £0 16s. 1d., and adopted. At the conclusion of the usual business, the remainder of the evening was devoted to the making of lantern slides by contact; slides being exposed and developed by Mr. A. H. Webbing and the Hon. Secretary. At the conclusion a vote of thanks was passed to them for their demonstration. It has been arranged to offer certificates for competition amongst the members, once a quarter, for various subjects. The first competition will be for lantern transparencies.

NORTH LONDON PHOT: SOC:—The usual meeting was held on January 7th, Mr. F. Medland in the chair. The Chairman showed a negative which had the appearance of having been frosted on the gelatine side. It was suggested that the negative had been intensified with bichloride of mercury, which had been some time at rest. Mr. Medland said several other negatives had been treated in exactly the same way afterwards, and in the same intensifier, and showed no such marks. Mr. Hudson suggested that the bichloride had been warm, and that the action of the cold air upon the plate had formed the crystals. Mr. Medland then passed round a very useful cutting shape which he had made, and by use of which he was enabled to cut lantern slide masks of various sizes. He stated that the cutter had been made for him by Newman's. An interesting and successful exhibition of lantern slides by the members then took place. The Secretary reported that the Council were making arrangements to hold a conversazione in connection with the annual exhibition of members' work, to be held at Northampton House, on Tuesday, March 4th. Members are requested to send their work to Northampton House, Paul's Road, at least a week before that date, directed to the Secretary. The next meeting of the society will be on January 21st, when Mr. A. Mackie will give a demonstration on "Collodio-Bromide, its Manufacture and Uses."

OLDHAM PHOT: SOC:—The annual soiree and dance in connection with the above society took place on Thursday, the 9th inst., in the rooms of the Oldham Lyceum. Conveyances began to arrive shortly after six, and at seven o'clock close on seventy members and friends sat down to an excellent "spread." An adjournment was made to the club-room, where dancing was indulged in, and at ten o'clock the first lantern display was given in the chess-room downstairs, a splendid set of slides, illustrating "Paris and its Exhibition," having been expressly sent for exhibition by Messrs. York and Son, of London—several of the Eiffel Tower being extremely interesting. Songs were given at intervals by Misses M. Bardsley and L. Lawton, and Messrs. J. J. Bailey, W. Beaumont, and J. H. Mills. The second lantern interval took place about twelve o'clock, and consisted of the exhibition of transparencies by the following members:—Messrs. Bailey, Fullalove, Hall, Nash, Thompson, and Widdop. Dancing was kept up until shortly after two, when the company began to disperse, all expressing themselves well pleased with the arrangements and the variety of the entertainment.

SHEFFIELD PHOT: SOC:—The ordinary meeting of the above Society was held at the Masonic Hall, Surrey Street, on Tuesday evening, January 7th, Mr. B. J. Taylor in the chair. It was proposed by Mr. Councillor Thomas Firth and seconded by Mr. B. Nowill, that a Lantern Exhibition be held early in February, in aid of the Public Hospital and Dispensary's contemplated alterations, which was unanimously agreed to. Mr. Preston gave a practical demonstration, showing the different lights for the optical lantern, viz., the three-wick lamp with Luxor oil, the oxy-hydrogen, and the ethero-oxygen. The two latter were thought to be about equal in brilliancy, the oxy-hydrogen the best for safety, and the ethero-oxygen the most convenient for giving exhibitions in country villages, where the ordinary gas is not to be had. The AMATEUR PHOTOGRAPHER'S Prize Competitive Pictures in the Animal Life Competition, "Inland" and "Hayfield" scenes, and "Seaside Work," were laid upon the table and fully appreciated by the members, and after the usual votes of thanks, the meeting terminated.

STOCKPORT PHOT: SOC:—The usual monthly meeting was held at the society's rooms, St. Petersgate, on Wednesday evening in last week; the Hon. Treasurer, Mr. F. Brooke, in the chair. Mr. W. T. Wilkinson gave a demonstration on "Carbon Printing." He explained how carbon tissue was prepared, and the chemical principles involved in printing it. Mr. Wilkinson then developed, stripped, and fixed some of these tissues, which were afterwards passed round for examination, and were greatly admired, the half-tones being very beautiful, the prints leaving nothing to be desired. Mr. H. Cooper then gave a demonstration on "Bromide Enlarging," by an ordinary optical lantern, on both slow and rapid Ilford paper, using both ferrous oxalate and hydroquinone developers. The society being young, and the subscription only 3s. per annum, it does not possess a lantern. Mr. Hilderley proposed that the funds for purchasing a lantern should be raised by shares, the shares to be repaid as the society became richer. This was taken up with enthusiasm, and sufficient shares were then taken to enable the society to purchase a lantern at once. Mr. W. Jennison passed round a number of platinotype prints. A hearty vote of thanks passed to Mr. W. T. Wilkinson and Mr. Cooper for their demonstrations concluded a very pleasant evening. The next meeting will be held on February 8th.

TUNBRIDGE WELLS AM: PHOT: SOC:—The annual meeting of the above association was held in the Mechanics' Institute, on Thursday evening, the 9th inst., the President being in the chair. The Hon. Secretary presented a report for the last year, and the President presented to the successful members the medals gained at the exhibition. The officers were elected for the ensuing year. Mr. Howard showed one of Beck's new cameras, "Pecrops," which was critically examined, and much commented on for its novel arrangement and well finished appearance. *Scraps* was distributed, as also a printed description of Mawson and Swan's Giah detective camera. Mr. Cassingham showed some excellent lantern slides, which were kindly lent by the Ilford Company. A letter was read by the Hon. Secretary from the Camera Club, inviting the association to nominate a representative to attend the 1890 Camera Club Conference, the President promising, if possible, to attend. A hearty vote of thanks to the Chairman closed the meeting.

WOLVERHAMPTON AM: PHOT: SOC:—The monthly meeting of this society was held on Tuesday evening, January 7th, at the society's rooms, Agricultural Hall. Mr. W. Ratcliffe occupied the chair. A very interesting collection of prints, sent for the occasion by the proprietors of *Photography*, was exhibited, and afforded much pleasure to the meeting. The set, taken as a whole, showed some good work, and to members no small instruction as to what is best suited for hand-camera work. Several members intend taken up this branch of photography during the coming season. Mr. G. Thomas read a paper on "The Use and Abuse of the Magic Lantern." The lecturer gave the history of the lantern from the 17th century, when invented by Kircher, down to the present time, and introduced one or two amusing stories of his own experiences. At the close of the lecture, slides were placed through the lantern by Messrs. E. Pratt, H. M. Lord, H. J. Wright, and the Secretary (J. N. Evans). The usual vote of thanks to the lecturer and Chairman concluded a very pleasant evening.

YORK PHOT: SOC:—The members of this society had an exceedingly pleasant meeting on Tuesday, the 7th inst., when, through the kindness of the Paisley Society, a set of fifty lantern slides, all of which were of great beauty, were shown. Copies of several catalogues and papers which had been received were laid on the table, and the thanks of the society accorded to Messrs. Piper and Carter for their gift of a copy of "The Year Book."

CORRECTION—PRINTING IN CARBON.—In letter, on page 20: for "from half-plate, portraits," read "four half-plate portraits."

"THE MAGIC LANTERN, ITS CONSTRUCTION AND USE," is the name of a convenient little handbook published by Messrs. Perken, Son, and Rayment, which, though not so exhaustive as Mr. Hepworth's "Book of the Lantern," is still a useful little brochure. It deals with the subject of single lanterns with oil lamps, of the lime light and method of making oxygen, of bi- and tri-lanterns, and the making and colouring of slides. It also deals with the application of the spectroscope to the lantern, and with the aphengescope. A beginner will find it a valuable help.

To Correspondents.

THE insertion of **QUERIES** and **ANSWERS** is attended with much labour, and it is requested that the questions asked and the answers given shall be short and to the point. No charge is made.

All communications for the columns are to be addressed to The Editors, "Amateur Photographer," 1, Creed Lane, Ludgate Hill, London, E.C.

RULES.

1. Write clearly and distinctly on one side of the paper only.
2. Write each Query or answer on a separate sheet of paper.
3. Write the name and address legibly on the back of each communication, and sign all Queries and Answers with name or *nom de plume*.
4. All matters for these columns **MUST** be received by **TUESDAY MORNING'S POST**.
5. The Editors do not undertake to answer questions by post.
6. In answering Queries correspondents are requested to mention, in every instance, the *number and full title of the query* referred to.

QUERIES

3368. **Halation.**—I use Ilford plates, and shall be glad to know how I can prevent negatives of interiors from blurring round the window lights. I understand that coating the backs with some composition will do, but have been unable to find any mention of it in books on photography.—A. MAT. EUB.

3369. **Enlarging Camera.**—Can any reader give me any information about Lancaster's Mulum in Parvo camera, which enlarges up to 12 by 10? How is it used, such as focussing, exposing, etc.?—BEGINNER.

3370. **Condenser.**—Will anyone kindly inform me on the following points:—(1) Can a really efficient condenser for enlarging purposes be made out of clock glasses cemented to flat glass and filled with glycerine; (2) how are the filling apertures managed; (3) what is the best way to mount them; (4) where can I obtain glass discs to use in making them? Any information about making will be thankfully received.—TREBLE X.

3371. **Covering Power of Lens.**—I have a whole-plate portrait lens fitted to a 10 by 8 enlarging camera. To get my sitter well focussed I have to bring my camera about 2 ft. from the sitter. Can any reader assist me? Is my camera too long?—PIVOT.

3372. **Enlarging.**—I have a 10 by 8 enlarging camera. Can any reader tell me how to enlarge finished photographs with the same?—PIVOT.

3373. **Mounting Prints.**—Will anyone tell me if they have succeeded in mounting prints with a high gloss by the process described in Wall's "Dictionary of Photography," page 124? I have tried repeatedly and carefully, and have always failed. My prints either refuse to adhere to the mount altogether, or they only stick in the centre. I dry them by a fire, finding that they otherwise remain firmly fixed on to the glass.—ELIZABETH.

3374. **Platinum v. Gold.**—I should be glad if one of your readers competent to do so would answer (not necessarily criticise) my questions under this head in No. 3338. I can dispense with the opinion of your correspondent (I forget his initials) who seemed to find some of them not to his mind.—G. M. S.

3375. **Model Camera.**—Is the Model camera, described in the **AMATEUR PHOTOGRAPHER** for 13th December last, yet for sale, and by whom?—N.

3376. **Magnifying Lantern Slides.**—At page 175 of the "Photographic News Year-Book" there is described an instrument for magnifying lantern slides. Can any reader kindly tell me where such an instrument can be obtained, or give me the address of Mr. R. H. Bow, C.E., through the columns of the **AMATEUR PHOTOGRAPHER**?—T. C. W.

3377. **Detective Cameras.**—Can some reader recommend me a thoroughly good detective camera? I want one with as few projections as possible, and one in which the plates are changed automatically from outside.—DETECTOR.

3378. **Depth of Focus.**—Can any reader tell me if there is any way of finding depth of focus of an unmounted lens?—DETECTOR.

3379. **Fallowfield's Facile Camera.**—Will any of your readers, who have had experience of and used the Facile detective camera, kindly tell me their candid opinion about its virtues and also short-

comings? I am very anxious to purchase a half-plate detective camera, and have heard of and read so much in favour of the Facile that I am greatly tempted to order one, but not if I can hear of anything even better. I shall be greatly obliged if a fellow amateur will help me to become acquainted with one.—CAPTAIN.

3380. **Transparencies, Painting of.**—Is it possible to paint photograph transparencies (for magic lanterns)? If so, would some one kindly give me directions?—J. S. B.

3381. **Camera on Bicycle.**—Can any cyclist photographer kindly give particulars of carrier and tripod suitable for carrying a quarter-plate Instantograph on a new rapid Safety bicycle? Also whether a cycle clip would answer instead of a tripod? Any information on the subject will be gladly received by—C. T. C.

QUERIES UNANSWERED.

Dec. 6th.—Nos. 3274, 3277, 3283, 3284, 3283, 3289, 3290, 3291, 3293.

13th.—Nos. 3297, 3298, 3300, 3302, 3304, 3305, 3306, 3307, 3312, 3314.

20th.—Nos. 3318, 3319, 3321, 3324, 3325.

27th.—Nos. 3330, 3332.

Jan. 3rd.—Nos. 3339, 3347, 3348.

10th.—Nos. 3351, 3352, 3353, 3354, 3356, 3357, 3358, 3359, 3360, 3361, 3364, 3365, 3367.

ANSWERS.

3329. **Developer for Foreign Travel.**—"Vectis" should read the correspondence which appeared in the **AMATEUR PHOTOGRAPHER** of about May 10th, where several developers are spoken of. Why could not "Vectis" take out the usual 10 per cent. solutions of pyro, bromide, or ammonia?—SCILLIAN.

3329. **Developer for Foreign Travel.**—You don't mention the plates you use, and, of course, some developers suit some plates, while others don't. If you use the Ilford, the best developer would be the pyro, which you will find is a very quick developer, but stains dreadfully. If you use Fry's plates, I should recommend hydroquinone. But it is rather difficult to state, as you don't mention your plates.—J. H. MONTAGU.

3341. **Criticising Photographs.**—There is a Postal Photographic Society for the circulation, criticism, and exchange of prints taken by the members. The Secretary is W. M. Baylis, 4, Middle Temple Lane, London.—SCILLIAN.

3355. **Gelatine.**—The bichromates of ammonium and sodium, as well as tannin and chrome alum, will render gelatine insoluble in water after exposure to light. Ordinary alum does not render it insoluble, but raises the melting point.—SCILLIAN.

3362. **Ten Per Cent. Solution.**—To make an almost exact 10 per cent. solution of pyro, dissolve 1 oz. (avoid drops) of pyro and 4 ozs. of sodium sulphite in about 1 oz. of water, and make up to 9 ozs. with water. The solution should be made slightly acid, as alkaline solutions of pyro deteriorate very quickly. Of course, distilled water is better than ordinary tap water, but it is not absolutely necessary when sulphite is used.—SCILLIAN.

3363. **Negative Varnish Formula.**—Take shellac 2 ozs., and dissolve with shaking at intervals in 20 ozs. methylated spirit. When all is dissolved, add 1 oz. of finely-powdered chalk or whitening to clear it. All to stand for two or three days. If not perfectly clear, filter through a paper funnel with a tuft of cotton wool inserted in the point. Soak the wool first in methylated spirit.—SCILLIAN.

3365. **Water Condenser.**—These glasses are very scarce, but can be obtained at Mr. Cohen's, near Lever Street, in Goswell Road, E.C.—H. S. LARGE.

3365. **Water Condenser.**—I obtained 8 in. convex glasses (clock faces) from Plattsner Bros., Victoria Street, Bristol, for 7d. each. They keep stock up to 12 ins. diameter. Particulars as to making these condensers are given in **AMATEUR PHOTOGRAPHER** for January 3rd, in T. O. Hepworth's article on lantern-slide making.—J. J. T.

EDITORIAL.

NOTE.—Anyone requiring an opinion upon photographic apparatus, plates, etc., must give a number or initial for identification, as in no case will makers' names be inserted in this column.—EDS. AM: PHOT:

NOVICE.—(1) Both lenses which you name are good, and you must exercise your own judgment in the adoption of one or the other. Possibly some friend who has one of these would let you try it, in order that you may see whether it comes up to your expectations. (2) The term "60 times" is an arbitrary one, and is very misleading. It means that plates so labelled are 60 times more rapid than the old wet process, but as the rapidity of plates prepared by the old process could, under certain conditions, be increased sufficiently to afford instantaneous effects, the comparison is a somewhat foolish one. (3) In the brightest light and for open

country or seascape, no exposure would be too rapid whatever the compilers of tables may say.

J. C. CORNWALL.—Your pictures are delightful, and full of life and vigour. The dull foggy city from which we write forms a melancholy contrast to them.

ARGOSY.—You have certainly no right to produce lantern slides from a photograph marked "copyright," and would by doing so lay yourself open to an action at law. We believe that a copyright extends for forty-two years. Thanks for good wishes. Our publishers have nothing to do with the publication named. Will try and procure it for you. With regard to exposure for copying, you can only decide the matter by trial.

G. B.—We prefer A of the two lenses named. The camera should have a swing-back, and is better for the other movements named, but the latter are not of the same importance as the former.

ARTEMUS.—Your lens, perhaps, fetched £7 in Pre-Adamite times, but it is certainly worth a great deal less now. It is apparently an experimental affair. The position of the diaphragm, of course, cuts off the image. It may be useful for portraiture, and should be confined to that employment. You might try the effect of inserting cardboard diaphragms between the lenses, and if you find any jam thereby, it might be worth while to have a slit cut for their insertion in the usual manner.

W. G. G.—(1) We are sorry to say your negatives and prints have been mislaid. They shall be now put aside for your messenger whenever he may come. (2) The idea of opening the dark slide within the camera has been patented more than once, but does not seem to have commended itself to the trade.

ALFRED STIEGLITZ (Berlin).—We have reproduced your photograph "Meditation." Our publishers have attended to your kind order.

REV. W. BENNETT.—Your communication has received attention by post.

D. E.—The lens B is a very perfect instrument, and we have every faith in C.

CAUL ULRICH (Vienna).—Thank you very much; we will write you when next requiring some special illustrations.

CHEAP PLATES.—We have received the name and address, and have written to the person named.

THOS. L. BUCK.—(1) We will consider your suggestion. (2) Opinions differ. Note reference this week in "Our Views." (3) The prints cannot be entered for both competitions. (4) When you please. (5) Due announcement will be made. We should consider the photographs you name certainly come under "Figure Studies." Many thanks for your kind compliments.

PAT.—We do not know the gentleman. Why not write to him under cover to the editor of the "Almanac"?

G. H. BEDFORD.—Programme to hand.

W. OWENS.—Will write you a little later on.

J. R. D.—Both over-exposed. You do not say what plate or developer you used. The point of view in each picture is well chosen. The prints are flat, but you have a good idea of a picture.

W. W. PARKINSON.—If you want a reliable cheap lens have No. 5, which will work at f/6, and is a thoroughly good piece of apparatus.

J. R. MARTIN.—Very pleased the prints gave such satisfaction. "Enlargements" are a splendid lot. If you require them you must make early application.

FRANK LONG.—Your question is not intelligible, and you give no address.

H.—If you have "stuck to a certain plate," why should you change? No. 4 is a splendid plate and cannot be surpassed. No 2 is a thoroughly dependable cheap plate.

A. READ.—We cannot advise you to use No. 1, and have had no experience with No. 2. Why not give us a call some Tuesday?

W. L. WILKINSON.—Thank you. May be glad of your services.

B. S. HARPER.—We cannot publish the name. The plate you mention has most excellent qualities, and can be procured from almost any photographic dealer. We do not know the maker's address.

E. G. RICHARDSON.—Probably due to excess of ammonia.

W. O. BLACKETT.—The conditions must be complied with, therefore we presume we shall not have you as a competitor. The photograph sent sadly lacks definition, and has no artistic merit.

E. O. W. L.—We have a high opinion of the usefulness of the hand camera named.

Sale and Exchange.

RULES.—Four penny stamps for twelve words or less, and one for every additional three words, must be enclosed with each advertisement, together with the name and address of the sender, which must be paid for, and sent to Hazell, Watson, and Viney, Ltd., 1, Creed Lane, Ludgate Hill. A single figure, or group of figures undivided by letter, space, stop,

or words, counts as one word; compound words count as two words.

DEPOSITS.

Deposits for goods to be forwarded on approval may be made with our Publishers, who will hold the amounts deposited until they are satisfied that the transaction has been executed to the satisfaction of both parties. Cheques and Post Office Orders should be made payable to Hazell, Watson, and Viney, Ltd. A nominal charge 1s. is made of whether a sale is effected or not.

N.B.—Trade Advertisements cannot, under any circumstances, be inserted in this column. Such advertisements can be inserted elsewhere at the Trade Scale, which may be obtained on application to Parry and Crawford, 1, Creed Lane, Ludgate Hill, London, E.C.

"Amateur Photographer," complete, from 1st January, 1888, to November, 1889; price 10s.—Hughes, 3, Colville Gardens, Bayswater, London.

Backgrounds.—Exterior and interior backgrounds.—Harris, Chacewater, Cornwall.

Background and Camera.—Quarter detective camera, only 38s.; interior background, 8 by 7, 10s.—Tooth, Caldecott Street, Rugby.

Burnisher.—Burnisher (photographic) for sale, second-hand, cheap; 12s. 6d.—Address with Publishers.

Cameras.—Half-plate camera, reversing frame, swing-back, rising and cross fronts, two double dark-slides, good condition; cost £6 6s.; price £3.—B., No. 79, Highbury Hill, N.

Lancaster's Instantograph 1889, complete, scarcely used; offers cash only.—Taylor, Tannery, Maple.

Camera, etc.—Half-plate Instantograph camera, conical bellows, lens and shutter, one mahogany and three metal slides, two reversing backs and screens, in waterproof case, Optimus three-fold stand; set, complete, 85s.—E. Greenway, 18, Sandringham Road, Dalston, N.

Camera, Lenses, etc.—15 by 12 Optimus square long-extension brass-bound camera, three double backs, Ashford's latest tripod, Beck's R.R. and Dallmeyer's W.A.R. lenses for size larger plate, Thornton-Pickard shutter, cost over £50, Shew's half-plate hand-camera and lens, six double backs leather case, Hughes' enlarging lime-light lantern, extra-special lens for marginal definition, Brin's oxygen cylinder, to enlarge 10 by 8 and smaller negatives, cost over £30; the whole only used few times; what offers? seen by appointment.—Apply, C., care of House-keeper, 93, Bishopsgate Street Within, E.C.

Dark-Room Lamp, deep ruby glass; cost 5s. 8d.; price 2s. 10d.—No. 23, AMATEUR PHOTOGRAPHER Office.

Hand-Cameras.—Demon camera, three dark sheaths, lens, and silver watch, both warranted perfect order; 15s. 6d.—61, Gayhurst Road, Hackney.

Hand-camera, Rouch's Eureka 1888, best detective made, 3½ by 3½, equal to new; cost £5 10s.; price 50s.—T., 61, Arundel Street, Sheffield.

Lenses.—Will give a quarter-view lens, by Ross, for a Stieglitz's large-size circular camera.—B., 1, Kilburn Square, N.W.

Excellent cart lens, by Squire, perfect definition, with Waterhouse diaphragms; 25s.—Arthur Norman, St. Osyth, Colchester.

"Phot. Soc. Reporter" for 1889, complete. Cash offers to Casson, 57, The Grove, Bedford.

Printing Frames, etc.—Three Arundel and Marshall's quarter negative boxes, three good wood quarter printing frames, a Tylar metal quarter printing frame, pneumatic instantaneous shutter, a cabinet ebonite tray, a 10s. 6d. single wide-angle lens, a guinea wide-angle rectilinear lens, quarter retouching frame; 20s. the lot.—A. Gilder, Ivy Cottage, West Drayton, Middlesex.

Sets.—Half camera, three double dark-slides, tripod, and R.R. lens, all in good condition, £3 10s.; quarter camera and landscape lens, quite new, 30s.; Robinson's cabinet portrait lens, 38s.—R. Pigott, Capard, Rosellenis, Ireland.

Quarter portrait lens, working at f/4, 15s., good as new; also quarter camera, double extension, double movement front, reversing back, three double dark-slides, with rectilinear lens working at f/8, splendid definition; 63s.; or lens separate, 25s.; hardly used; deposit; approval.—A. Neale, Oakfield, Acock's Green.

Whole-plate camera and one double slide, new, cost £3, bargain 63s.; whole-plate lens, 15s.; and whole-plate tripod, 11s. 6d.—Slade, Slad Road, Stroud.

Watson and Sons' 8½ by 6½ new form Premier camera, brass-bound, with three double slides, solid leather case, and three-fold tripod, in perfect condition, almost new; cost £16 5s.; will take £10.—Apply, G.S., care of Watson and Sons, 313, High Holborn, W.C.

For sale, McKellen's whole-plate treble patent prize camera, all latest improvements, with two lenses, Ross R.R. and Dallmeyer's wide-angle, tripod and four dark-slides, in careful use four seasons, practically as good as new, whole contained in two waterproof bags, cost £31, will take £18; also London Stereoscopic half-plate camera, India set, all latest improvements, in leather case with lock, two lenses, the Company's R.R. and Wray's wide-angle, three dark-slides and tripod, bought in 1883, cost £18 4s.; will take £10.—Vicar, Aberannell, Garth, R.S.O., Breconshire.

Instantograph 1889, complete; 25s. 6d.; bargain; exchange.—Letters, George Howard, 55, Percival Street, Clerkenwell.

Sands and Hunter's Imperial half-plate camera, two double backs, view finder and case, perfectly new, £1; long-focus half-plate landscape lens, by Swift, £1.—Holm, 35, Elthiron Road, Fulham.

Lancaster's 1889 Instantograph half-plate, guaranteed genuine and in very finest order, double extension, leather bellows and reversing back, Instantograph lens and shutter, for views, portraits, etc., Iris stops, double slide, quarter carrier and stand, complete; approval; 74s.—Cousins, 5, Stanley Villa, Bruce Grove, Tottenham.

Camera, Furnival half-plate, all latest movements, three mahogany double backs, folding tripod, leather and canvas cases, etc.; bargain, £8.—C., 30, Brooke Road, Stoke Newington.

Camera, lens, and stand, quarter-plate, well-made swing-back, four dark-slides, price 25s.; rectilinear lens, price 7s.; lot 30s.—H., 27, Peel Bank Terrace, Church, Lancashire.

Set and "Amateur Photographer."—Quarter-plate camera (rack and pinion for focussing), R.R. lens, four double slides (cost 10s. each), by Stereoscopic Company, in excellent working order; £2 10s.; tripod if required; AMATEUR PHOTOGRAPHER for 1st two years in numbers; offers in cash; print on application.—Laurel Cottage, Heath, Leighton Buzzard.

Shutter.—Kershaw shutter, 2½ in. hood, cost 21s., and Cadett's ebonite time shutter, 2½ in. hood, cost 24s.; the two for 24s.; approval; deposit.—F. A. Graham, Albion Stores, Stockton-on-Tees.

Watch.—Watch, silver lever (maker, Benson, London), in going order; cost five guineas; accept 50s., or exchange half-plate camera, tripod, two double backs.—H. K., 171, Caledonian Road, London.

WANTED.

Background.—Empire background, about 7 by 5, mounted or unmounted (interior), cheap, cash.—F. Sharpe, Oakham.

Cameras.—Studio camera, cheap.—Thornton, 43, Walton Street, Chelsea.

Hockin's invisible detective camera.—S., 10, Burton Crescent, W.C.

Camera, Lens, etc.—Good half-plate camera, R.R. lens, photographic accessories, good lantern lamp; exchange lantern and slides, cost £11.—Greaves, Photographer, Heyside, Oldham.

Lantern.—Thoroughly good portable single lantern, fitted with good lenses, to show good 8 ft. picture.—Send full particulars and lowest price to Gem, 13, Greenside, Kendal.

Lenses.—Good whole-plate rapid rectilinear lens; exchange good violin, value £5.—D. J. McNeillie, Stratford-on-Avon.

Good lenses, very cheap for cash, or good exchange.—John Slade, Slad Road, Stroud.

Good quarter-plate lens, Eurycope preferred; approval.—Nicholls, Pawnbroker, Darlington.

Lens, etc.—R.R. and P.S. 7 by 5, Optimus preferred; also bellows-bodied half-plate studio camera, with or without lens and inside shutter; also graphoscope and stereoscope, cash, or exchange violoncello, violin, paintings, etc.—3, Walpole Street, Wolverhampton.

Sets.—Quarter-plate Instantograph set; exchange 9 in. burnisher, as new, cost 35s.—Evans, Minehead, Somerset.

Half or quarter-plate camera, lens, etc., part cash and exchange.—Phot., 70, Adelaide Road, Brockley, Kent.

Shutter.—Thornton-Pickard instantaneous and time shutter, 2½ in. hood.—A., Cleveland Mills, Stockton-on-Tees.

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"AMATEUR PHOTOGRAPHER" MONTHLY COMPETITIVE PAPERS, 1890.

The following Prizes are offered for competition every month:—

Three Prizes of £1 1 0 each.

Three Prizes of 0 10 6 each.

And Three Certificates.

The Papers must not exceed 1,600 words; and those which are awarded Prizes will be published in the AMATEUR PHOTOGRAPHER; others will be selected, and will be arranged for publication in the

"AMATEUR PHOTOGRAPHER'S ANNUAL."

Contributions are to be upon the subjects as list given below; and in order to make the matter more interesting, it is requested that each competitor shall give his personal experiences. It is intended that each subject shall be written up by a specialist for the ANNUAL, and the latest information given. All MSS. must be received not later than the

28TH OF EACH MONTH.

Subjects.

28th February	Apparatus.
28th March	Optics.
28th April	Action of Light.
28th May	Exposure.
28th June	Plates and Films: Their Development and After Treatment.
28th July	Printing, Toning, Mounting, and Finishing.
28th August	Artistic Effect and Composition.
29th September	Outdoor Instantaneous and General Photography.

All MSS. to be addressed to the Editors, "Amateur Photographer," 1, Creed Lane, Ludgate Hill, London, E.C.

NOTICES TO SUBSCRIBERS.

Subscriptions must be prepaid.

UNITED KINGDOM	Six Months, 5s. 6d.	Twelve Months, 10s. 10d.
POSTAL UNION	6s. 6d.	13s. 0d.
INDIA, CHINA, ETC.	7s. 9d.	15s. 3d.

"AMATEUR PHOTOGRAPHER" MONTHLY PHOTOGRAPHIC COMPETITIONS.

The Proprietors of the AMATEUR PHOTOGRAPHER will offer, Monthly, two prizes, consisting of a

SILVER AND A BRONZE MEDAL (WITH RIBBON AND CLASP)

for the best and second-best photographs sent in to each of their Monthly Competitions. The subject of the Competitions will be as follows:—

LANDSCAPE OR SEASCAPE	Feb. 14	June 14.
LANDSCAPE WITH FIGURE	Mar. 14	July 14.
GENRE OR FIGURE STUDY	April 14	Aug. 14.
INSTANTANEOUS PHOTOGRAPHS, ANIMALS, ETC.	May 14	Sept. 14.

Only one print is to be sent in; the negative of the prize pictures shall be at the service of the Proprietors, and all the prints sent in shall become the property of the Proprietors.

In addition to the Medals being given, the prize photographs will be reproduced in the AMATEUR PHOTOGRAPHER.

All photographs for any of the above competitions must be received by the

FOURTEENTH DAY OF THE FOLLOWING MONTH,

and as received will be acknowledged in the columns of the AMATEUR PHOTOGRAPHER.

Competitive prints are available for exhibition before Photographic Societies after the 1st of each month.

The prints will all be numbered, and when sent to societies, will be accompanied by a book for criticism. It is hoped that the President or other official will give a note stating the general opinion of the members of the Society.

Entry forms on receipt of stamped addressed envelope.

Prints for next competition, "Landscape or Seascape," must be sent in on or before the 14th day of February, endorsed: "Monthly Competition," the Editors, "Amateur Photographer," 1, Creed Lane, Ludgate Hill, London, E.C.

THE AMATEUR PHOTOGRAPHER

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[PRICE TWOPENCE.]

OUR VIEWS.

"To hold as 'twere the mirror up to nature."—Shakespeare.

In another column we give the award of Mr. A. Stroh, who has so kindly and carefully examined the slides sent in to the AMATEUR PHOTOGRAPHER Third Stereoscopic Slide Competition. We will shortly set aside one or two days when they shall be on exhibit at our offices, and, if possible, will arrange that they shall be shown during the evening of one of those days from 7 till 10 o'clock. The quality of the slides generally is, perhaps, in advance of the previous competitions, but we could wish that more competitors had entered. We shall, however, persevere, and trust that both work and numbers may be better next year.

* * * *

THE enlargements entered in our Monthly Competition are many of them very fine; they are now on exhibit every day, except Saturday, from 11 till 5 o'clock, and on Saturday from 11 till 2 o'clock. Visitors are requested to leave their cards or to sign the visitors' book. The pictures will be on show until the 31st inst., after which date they are available for exhibition before photographic societies upon our general conditions. Early application should be made, as already many dates have been secured. The exhibition of these pictures will make an excellent entertainment for a club evening. A list of pictures, and the names of the competitors is given in another column. The prizes cannot be awarded this week, but will be announced in our next, we hope.

* * * *

THE very great interest that is and has been taken in that gigantic engineering enterprise, the erection of the Forth Bridge, has prompted us to offer special prizes for sets of four views. These views are to be sent in on or before the 10th of March, that date being fixed in order to permit of photographs of the opening ceremony by H.R.H. the Prince of Wales on the 4th of March to be included in the set.

* * * *

WE have much pleasure in stating that the April number of the PHOTOGRAPHIC QUARTERLY will contain a portrait of Mr. George Davison, the Hon. Secretary of the Camera Club. We have thought it probable that many of

our readers will be glad to have a counterfeit presentment of a gentleman so prominent in photographic circles.

* * * *

THE Woodburytype Company, who have executed our commissions for the frontispieces that have appeared in the two numbers of the PHOTOGRAPHIC QUARTERLY, have sent us most excellently executed transparencies of both "Salisbury Cathedral" and "Harmony." The work is admirably done, and when mounted in a hanging frame is exceedingly effective. The colour in both cases has been well preserved, and reflects much credit upon the artistic capabilities of the Company.

* * * *

FROM time to time we have had to chronicle the birth of photographic journals and kindred publications. Not the least promising was the *Photographic Review*, started as a penny weekly by Mr. Thomas Bolas, immediately after his resigning the position of Editor of the *Photographic News*. He was for very many years connected with that paper, but held, we understand, views at considerable variance with the proprietary, with the result that he at last thought it best to resign. In order to maintain and make known his own views, he started the *Photographic Review*. The *Review* has had a brief career, only twenty-nine numbers being published. Mr. Bolas announces its decease in a rambling, disconnected leader in the issue of last Saturday, the 18th inst., yet he seems somewhat alive to the humour of the situation, for in the meagre index which is inserted in the copy before us, we find this line—"Photographic Review, The end of." We regret that one of the reasons for giving up the *Review* has been the "trying to do too much work of very divers sorts." We hope Mr. Bolas may be spared to contribute to the existing journals much from his store of photographic knowledge which everyone admits he possesses, and that he may speedily recover from his over-work. He can certainly content himself that, even though *la Revue est morte*, there are sufficient publications devoted to photography to provide for all the present requirements of the professional and amateur photographer.

For Contents, Prize Competitions, Notices, etc., see page 64.

RULES, conditions, and entry forms for the AMATEUR PHOTOGRAPHER Monthly Competitions will be ready next week. The book of rules, etc., will contain four entry forms covering the competitions in February, March, April, and May, after which date further forms may be obtained. We shall be pleased to send copies to secretaries of photographic societies for distribution amongst their members. We hope that during the summer months amateurs attending excursions will make a point of securing a picture for each of the AMATEUR PHOTOGRAPHER competitions. At the close of the season—end of September—the prints will be at the disposal of the photographic societies, and the comparison of work done by members of societies and others all over the kingdom can but have a beneficial effect, and prove a means of drawing all the workers of photography closer together, and of disseminating amongst them a vast knowledge of the resources of this country and the beauties of Nature in her varying moods.

* * * *

We know that many of our competitors are careful as to the statements they make in regard to the work they send in to our competitions, and we have never in our experience discovered a competitor making a statement on his entry form that was untrue, nor have we ever had the work of others passed off upon us as being that of a competitor. But it has been left to Mr. William McLean, of Forbes, New South Wales, to send us a declaration before a commissioner for affidavits, that he is an amateur photographer. The declaration, made before a magistrate of the Supreme Court of N.S.W., reads—

"I, William McLean, of Forbes, New South Wales, draftsman, do solemnly and sincerely declare that I am a *bona-fide* amateur photographer, and that all the work from commencement to finish is my own, of the photographs submitted by me herewith, with a view of all or any of them taking part in the AMATEUR PHOTOGRAPHER Monthly Competition, and I make this solemn declaration, conscientiously believing the same to be true, and in virtue of the provisions of an Act made and in the ninth year of the reign of her present Majesty instituted," etc.

The trouble that Mr. McLean has taken will prove to our readers that the Monthly Competitions are appreciated all over the world. The photographs sent by Mr. McLean promise well, and some of them will be entered for the "Prize Tour Competition," and exhibited at the Crystal Palace Photographic Exhibition.

* * * *

THE frames for the Photographic Exhibition being promoted by the City of Belfast Y.M.C.A. Camera Club, must be sent to the Secretary, Mr. J. H. Hamilton, 14, Wellington Place, Belfast, on or before the 26th March.

* * * *

IN next week's issue we shall publish the view taken in Battersea Park by Mr. W. T. Goodhew, for which we awarded him the AMATEUR PHOTOGRAPHER Bronze Medal at the recent exhibition of members' work of the North Middlesex Photographic Club.

* * * *

THE members of the Manchester Amateur Photographic Society hold their fifth annual general meeting on the 28th inst. During the evening, as is their custom, there will be a sale by auction of photographic apparatus, the

property of members; only members can bid. A commission of 5 per cent. is charged to defray expenses. We make no doubt that considerable advantage and amusement is got out of this auction, and we commend it to the serious consideration of the members of other societies.

* * * *

THE members of the Edinburgh Photographic Society will hold their first popular evening on Wednesday the 29th inst.

* * * *

THE following is the order of the first six photographs to be reproduced in the PHOTOGRAPHIC QUARTERLY, as voted by coupon:—

First—"When the Day's Work is Done" (H. P. Robinson).

Second—"Carolling" (H. P. Robinson).

Third—"Water Rats" (F. M. Sutcliffe).

Fourth—"Wayside Gossip" (H. P. Robinson).

Fifth—"Sleepy Hollow" (J. Gale).

Sixth—"A Breezy Day in Spring" (G. Davison).

* * * *

THE following communication has just come to hand from the Hon. Secretary of the Camera Club:

"Will you kindly allow me to announce that the Exhibition of Rejlander's photographs at the Camera Club will close on Thursday, January 30th. Until that date the exhibition will be open to visitors on presentation of card, from 10 a.m. to 5 p.m.

"On and from Tuesday, February 4th, there will be an Exhibition of Photographs by members of the Amateur Photographic Field Club."

"This society is known as one of the earliest devoted to landscape work, and part of the exhibition will be given up to showing results of the older processes. The collection will be open to inspection for about six weeks under the usual conditions."

* * * *

A CORRESPONDENT, in somewhat an erratic letter, suggests a teaching club where the young aspirant to photography may, for a small fee, be put through his facings in photography. We shall be pleased to have the views of our readers upon such a scheme!

* * * *

THE Rev. J. G. Gibson will be glad to hear from intending contributors to the Royton Photographic Exhibition. It is very desirable that photographs intended for competition should be entered with as little delay as possible. There is really a most liberal prize list.

* * * *

MR. H. MACLEAN, F.G.S., writing from Gratwick Lodge, Birdhurst Road, S. Croydon, writes us:

"You will be glad to know that I have initiated a movement for the formation of a photographic society for Croydon and district. I shall be greatly obliged if you will make this fact known in your journal, and also intimate that I am desirous of receiving, without delay, the names of all who approve of the project."

We should imagine that Mr. Maclean will have no difficulty in forming an admirable photographic society. We know there are many ardent workers in the district, and they will, we feel sure, willingly support the movement.

* * * *

WE have before us a syllabus of the course of free lectures to be delivered in the Rotunda Hall, Liverpool. Mr. A. W. Beer, in sending us the particulars, says that out of thirty-eight lectures no less than thirty are

illustrated by means of the lantern. He is giving a lecture on the 4th prox., entitled, "On the Borderland of England and Wales," illustrated by 150 slides, the work of Mr. Cornish and himself, both, as is well known, active members of the Liverpool Amateur Photographic Association.

* * * *

Mr. J. JAQUISS makes yet another proposal for the use of the lantern, in his letter which is published in another column. Will our many readers help him?

* * * *

WE very much regret that we are compelled to hold over several reports of photographic societies' meetings; we regret this the more as we are of opinion the "copy" might have been sent us at an earlier date; the meetings of which reports are to hand were held on the 9th, 15th, and 17th inst. We must ask Secretaries to send reports at once after the meetings. It is impossible for us to insert reports, except in very exceptional circumstances, that come to hand after mid-day on Tuesday. The calls upon our space and the time required to *properly* print and turn out a paper with the circulation of the AMATEUR PHOTOGRAPHER, are such as to compel our making up the paper by Tuesday evening. This fact must be remembered by all contributors, in order to prevent disappointment.

* * * *

THE annual exhibition and *soirée* of the members of the North Surrey Photographic Society, which was held at the Norwood Institute on Monday last, was decidedly a success. There was some very good work shown, and the judges, Messrs. Gale, J. Thompson, and Starnes, must have found some difficulty in making their awards. Hence medals (one silver and two bronze) were offered for any class of work, and they went, the silver to T. J. Bright, for some effective enlargements from hand-camera negatives; the first bronze to Louis Wolff, for a charming little set of quarter-plate platinotype prints; and the second bronze to William Rice for another set of enlargements. Subsequently there was a lantern exhibition, of which, perhaps, the less said the better, both as respects the slides and the manipulation of the lantern. However, a prize had been offered for the best set, and it was awarded to Mr. L. Wolff, the judge being Mr. Brooks, of Reigate, who most decidedly selected the best set for the honour. The commonest fault of the slides was the bad selection of the portion of the larger picture for reproduction; a little more judgment on that point would have saved the character of many of them.

* * * *

NEW YEAR'S NOVELTIES.

WE have had occasion recently to take a journey of some distance, and there would have been no need to have mentioned the fact had we not been accompanied by the latest advent in photographic implements, namely, the new "B" Kodak of the Eastman Company, furnished with a spool of their rollable celluloid film, and as our results were developed with Marion's new crystallised sample of Eikonogen, we thought that some description of our experience with these three novelties of the season might be of interest to our readers.

Taking the camera itself first, we may mention that in form it generally resembles the original model, but with

the great advantage that it gives a picture of a circular shape $3\frac{1}{2}$ inches in diameter. This means, practically, a quarter-plate size, as in most hand-work it is quite out of the question to absolutely determine whether a picture composes best horizontally or vertically, and as far as our experience goes, for this reason a quarter-plate possesses no advantage over the lantern size, whereas a $3\frac{1}{2}$ inch circle permits, even when artistically trimmed, of giving a picture that is quite large enough to stand *per se*, and, needless to say, is exactly the size for lantern work. Like the original Kodak, the present one works at a fixed focus—that is to say, the lens is of sufficiently short focal length and sufficiently stopped down to virtually bring all objects into good focus; that is, it will equally well take a full-length portrait or a distant landscape. This absence of focussing arrangements undoubtedly simplifies the manipulation of the camera, but brings its attendant drawback in the short focal length of the lens, and the consequent wide angle included in the picture.

The shutter, so arranged that the lens is only uncovered during exposure, and not during the setting of the flap, is most ingenious, and when we add that the camera is furnished with a small finder, and is capable of taking 100 exposures, we shall see that the Kodak has now passed beyond the toy stage, and has become a very serious and useful instrument of considerable value to either the painter or the traveller.

The new rollable film, which has at last made its *début* on the English market, is formed of celluloid, a material that is now known to all of us in the form of cut pieces as a support for the sensitive film; but the present sample differs from these in its excessive thinness, being nearly as thin as the paper on which these lines are printed, and as a matter of fact, appreciably thinner than the old stripping film. The emulsion with which the film is covered is undoubtedly very rapid, quite as fast, indeed, as any of our lightning dry plates. The fact that we were able to do hand work at all during the past dull weather sufficiently proves this. Even in very bad light we got groups at Dover and Calais, not certainly fully exposed, but yet sufficiently so.

During development we found no difficulty from the curling of the film. When removed from the spool, it is naturally curled up, emulsion side inwards, but on contact with water it straightens out, and remains fairly flat during development. At first a tendency for the ends to curl up is sometimes apparent, but as the gelatine becomes saturated, the film flattens out. As far as we can judge, unlike the stripping film, which required a special developer, any of the ordinary developing agents suit the new one perfectly. As we have stated, we used chiefly Eikonogen, but comparative trials were also made with pyro and ammonia, and also soda and potash, and the film appeared equally amenable to all of them. Hydroquinone we did not try, but we have heard that it has a tendency to rot the gelatine film, but further experience is wanting in this direction. In fixing and washing, the treatment followed is the same as for prints or paper negatives; it is only in the drying that a little extra care is necessary. There are two ways of drying the films; the one is simply to suspend them by one corner and let them dry, when they will be found to curl up into a thin spill; they are then rolled the reverse way, after which they remain fairly flat. The second way, and

the one we prefer, is to keep them flat by some means or other till they are quite dry; the reason of their curling is of course the tension exerted by the contraction of the gelatine film when dry; if the gelatine be kept flat during this operation, a permanent tension is put upon it, and when dry it remains flat, and has no tendency to curl up. The method we found best was to pin the two upper corners to a shelf by drawing pins, and then nip the bottom between two pieces of wood sprung together with an india-rubber band; the weight of the wooden clip keeps the film *taut*, and when completely dry it remains perfectly flat and under control.

The Eikonogen we used in our development was the new crystallised variety lately introduced by Marion. Our formula was made up according to the deductions we gave in an article on this developer published a short time back (see *ante*, vol. x., p. 427), namely, 10 grs. of eikonogen, 20 sulphite, and 10 of carbonate of soda, to the ounce of water. This forms a clear, slightly yellow solution, that keeps perfectly if not used. When once used it turns of a rich claret colour, and after the second day, had lost much of its powers, but this, it must be remembered, was after it had developed some thirty negatives. We cannot say that the results were distinctly superior to the pyro-developed negatives, at least not in respect of getting out detail, but one very great advantage it gave was in the quantity of negatives that could be developed at once.

We had as many as ten films developing at once in a half-plate dish, and that with an entire absence of stains or marks, whereas when pyro and ammonia was used in the same way, stains and unequal development resulted. As we have stated before, Eikonogen is unequalled for this kind of work, and although we do not consider it superior to pyro for large and carefully exposed work, we think its use must become very general for hand-camera exposures, especially as these are usually developed in batches. We must generally congratulate the introducers of the above novelties on the excellence of their productions. It is but rarely that one succeeds so well at first, when working entirely with unknown quantities, and we think it only fair that every credit should be given them for their efforts in simplifying the process of our art-science generally.

* * * *

PHOTOGRAPHS AT KEIGHLEY.

LAST week we commented at some length upon the photographs exhibited by professional photographers at Keighley, and in this article will make a few remarks upon the work contributed by amateur photographers. We may at once say that many gentlemen whose pictures have been hung at different exhibitions were absent, but this fact is not singular to Keighley. A coterie of well-known amateur workers have, for reasons best known to themselves, abstained from exhibiting at provincial exhibitions. We do not know whether this is due to the working of the champion class rules, or whether the much-exhibiting coterie of the past have nothing new to show.

In Landscape or Seascape, Mr. Alex. Keighley takes first prize with "Water Carriers," a well composed picture, in which women in the foreground are dipping water, and the background is well balanced. "Hauling in the Boats" is a sea-shore study, and free of any forced composition. We understand that Mr. Keighley, who is something of an artist as well as a photographer,

first makes a sketch before ever he brings his lens in to work. Many other pictures by him are shown; some of them will shortly be published by Messrs. Hazell, Watson, and Viney, Ltd., and our readers will then have an opportunity of studying the careful and artistic work done by Mr. Keighley. Mr. Ernest Beck is another worker in whom we see great promise, and in "Whitby Harbour" we have a seascape which, in our opinion, surpasses many of Sutcliffe's pictures, and in "Eventide" we have a landscape that will rank side by side with many of the medalled pictures of older workers; for these two prints Mr. Beck was placed second in the class. Mr. John E. Austin secured third, with "Listening to the Bells." Good work was shown by many, and the average merit certainly was higher than last year. The Rev. H. B. Hare showed many old favourites, but when will the reverend photographer produce a new photograph? Mr. Alf Nicholson's pictures are hard and over-printed, but his selections of subjects are many of them good. We hope soon to see him doing more careful work, and should advise him to try printing from some of his negatives on matt-surface paper, especially his view of "Up the Harbour, Whitby." Mr. A. R. Dresser sent a mixed lot, "Rough Sea at Bognor," really an instantaneous shot; "Mending Nets," which we have seen before, "many a time, many a time," and which should have been entered as a "subject picture;" and "Ploughing," another old friend. Mr. A. W. Gottlieb exhibited some well-chosen pictures. "Waiting to be in it" shows some humour. The scene is near Bristol, and Mr. Gottlieb had set up his camera in order to secure a view of Clifton Suspension Bridge, in which we may add he succeeded admirably. But the title refers to several onlookers, who had seated themselves on the coping of a wall with the fixed intention of "being in it." Mr. Gottlieb got them capitally, and the subjects are as stiff and formal as the most accomplished itinerant photographer could desire. They will remain a very lasting monument to "natural pose." Mr. J. S. Blanckensee contributed a few bold and well-selected views.

In subject pictures, Mr. Keighley takes first with "A Thorn in the Foot," or, as it is more lately called, "The Wounded Foot." Mr. Austin takes second with "Fast Falls the Eventide," an old man returning from his work at the close of the day, weighed down heavily with the bundle of faggots. Not only is the picture typical of the closing day, but also of the old man's closing life, and so creates an interest as a "subject picture" which it would not otherwise possess. Mr. J. W. R. Brocklebank takes third prize with "Feeding Sheep." Mr. A. R. Dresser sends four frames, but we can make no selection as to which is the best of them—perhaps "Geese." We have known Mr. Dresser for many years, and are surprised that he should send for exhibition such a repulsive photograph as "One More Unfortunate," supposed to illustrate Tom Hood's well-known poem. It represents a woman who has sought a resting place from the troubles of the world in the surging sea, and the cruel waves have thrown up their dead on the beach; of course the thing is a sham. A most gruesome and disgusting use of the power of photography has, we venture to think, never before been exhibited, and we trust never to see any thing of the kind again.

Architectural photographs are not numerous. Those by Mr. W. H. Banks, who takes first prize, are exceedingly fine; they are mostly of buildings in France and Brittany

Mr. C. C. Cole thoroughly deserves second place, and the Rev. T. Mellovey, who takes third prize, shows some good local work. The ubiquitous Mr. Dresser turns up in this class again, and shows nothing worth a line.

In "Enlargements," Mr. T. J. Bright is placed first with some very clever pictures enlarged from hand-camera negatives. Mr. A. R. Dresser takes a well-deserved second prize for a "Rough Sea at Jersey;" as a study of wave-life we have hardly seen it surpassed. The third prize is for "Somerleyton Hall, Main Entrance," by Mr. H. D. Arnott; the work is carefully done, and a most effective view given of a very fine house. Mr. Keighley shows enlargements of his well-known photographs "Times is Bad" and "Children of the City. In our opinion the subjects are not at all suitable for enlargement, although the work is cleverly executed. In this class Mr. W. H. Kitchen shows a large number of pictures; his animal studies are good, and several others show careful work.

Portraiture is certainly not the *tour de force* of amateurs. Mrs. G. Young shows some nice work, and takes first prize. Mr. Dresser takes second in the four portraits of Breton peasants, which he labels "Breton Costumes." The ladies photographed are exceedingly good-looking, quite as worthy of mention as their costumes. The pictures have the further charm of being printed on Fry's ivory positive films, a vehicle which, in our opinion, is especially suitable for portraiture. Miss Clarisse Miles takes third prize with a well-executed study of "Two Sisters." This exhibitor's work would show to much greater advantage if the prints were mounted and framed in oak with gold slip and showing at least $2\frac{1}{2}$ inches of mount as a margin.

The lantern-slides award have been published. Mr. E. G. Lee was a good first. Mr. Dresser sent something less than a hundred, many of them very poor, the prize being awarded to his "Wave Studies at Jersey." No doubt many of the others would give pleasure on the lantern evenings, but it is the height of absurdity to enter such a miscellaneous lot in competition for a prize. Mr. E. Beck took third place with twelve well-chosen and carefully made slides.

In the Mechanical Class the work was good; in the Scientific Class there were only two competitors, who took the bronze medal and certificate, upon the award of Mr. C. H. Bothamley. In the Champion Class the entries were not numerous. The four other classes in which prizes were given were special, and the medals were awarded to prize winners whose photographs have been commented upon.

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STEREOSCOPIC SLIDE COMPETITION.

REPORT AND AWARD.

We have pleasure in publishing the following report (received from Mr. A. Stroh) upon the slides entered for the AMATEUR PHOTOGRAPHER Third Stereoscopic Slide Competition:—

"Having examined the slides for this competition, in which it appears that eighteen competitors have taken part, I find that the best work has been done in transparencies in Class 1, Section *a*. Nine sets of four and one set of six, making forty-two slides, have been entered in this section.

"The prints on paper in Class 1, Section *b*, where eight sets of four, or thirty-two slides, have been entered, are not equal in merit to the work in Section *a*.

"In Class 2 not much has been done, there being only one competitor with four slides in section *a*, one with four slides in section *b*, and one with one slide in *a*, and three in *b*, or twelve in all.

"The total number of slides is eighty-six.

"A very striking feature in this collection of slides is the variation of distance between the two pictures composing a slide, or, rather, the distance between the images of the same object in the two pictures. A wide discrepancy prevails among the slides of different contributors in this respect, the distance varying from $2\frac{1}{2}$ to $3\frac{1}{4}$ ins. in Class 1, and to $3\frac{1}{2}$ ins. in Class 2.

"In some sets, the four slides vary considerably among themselves, showing that the respective contributors hold no decided opinion in the matter. Those who adopt a distance of $2\frac{3}{4}$ ins. or under have probably found that unless they do so, not all their friends can appreciate their work, and those who adopt a distance of 3 ins. or more do not mind if a few of their friends cannot see their pictures in stereoscopic relief without squinting, or hurting their eyes.

"There is no doubt that a difference of opinion exists on this point, and therefore I will not dwell upon it too much in selecting slides for prizes. But since a line *must* be drawn somewhere, I will do so at 3 ins. for Class 1, and reject only such slides in which the distance is still greater. Happily, there are not many which are affected by this rule.

"In selecting the best slides for prizes, I have taken into careful consideration (1) their photographic value, (2) tone or colour, (3) choice of subject, (4) stereoscopic qualities, (5) mounting and finishing; and I find that all slides fall short more or less in one or other of these five qualities.

"The two sets which gained the highest number of marks in my examination are sets No. 4 and No. 8.

"In the last-named set there is, however, one slide which turns the scales. It is 8c, "The Lower Falls, Rydal." The photographic value, as regards definition, careful manipulation, choice of subject, and especially colour of image, is so satisfactory that I will recommend the set to which it belongs for the first prize.

"The following, then, is the order in which I recommend the prizes to be distributed:—

CLASS 1.

(Slides made for viewing in the ordinary Stereoscope, the two pictures composing the slide to be about 3 ins. square.)

First Prize, Sec. <i>a</i>	..	Henry G. Ridgeway (Sunderland).
Second " " <i>a</i>	..	M. W. Thompson (Manchester).
Third " " <i>a</i>	..	Frank Howard (Wallingford).
Fourth " " <i>b</i>	..	Cecil V. Shadbolt (Chiselhurst).
Fifth " " <i>a</i>	..	W. H. Charlesworth (Huddersfield).
Sixth " " <i>a</i>	..	Thos. Ferguson (Kilmarnock).

CLASS 2.

(Slides which cannot be viewed in the ordinary Stereoscope, and where the pictures are larger and of different dimensions than Class 1.)

First Prize	..	Withheld.
Second " Sec. <i>a</i>	..	H. Forsyth (Bradford).
Third " "	..	Withheld.
Fourth " Secs. <i>a</i> and <i>b</i>	..	Capt. Thos. Lamb.
Fifth " "	..	Withheld.
Sixth " "	..	Withheld.

a. Transparencies on glass or other support.
b. Paper prints mounted on cardboard.

"Feeling that under difficult circumstances I have done my best to make a fair selection, I trust that it may meet with your approval and that of the contributors who took part in this competition."

Letters to the Editors.

TRANSFORMATION OF FORMULÆ.

SIRS,—Now that so much is heard of the superiority of the metric system over the English, I think some agreement should be come to as to the way in which translations shall be made from the one into the other. The plan adopted by some writers of transforming separately each member of the formula is, in my opinion, the worst possible, generally leading to results quite impossible of application. What we require is, not a literal translation of our formula item by item, but a *corresponding* formula, such as any one would be likely to construct who wished to obtain the same proportions of the several ingredients as are used in the original formula. I think the simplest method is to take as the basis of the English formula the number of grains in one ounce, and for the metric formula the number of grammes in 1,000 c.c.

Then, to pass from one system to the other, say from English to metric, we multiply the number of grains by $2\frac{1}{2}$. This gives the number of grammes in 1,000 c.c. To multiply by $2\frac{1}{2}$ we simply multiply by 2 and add on $\frac{1}{2}$ part of the result. Conversely, to pass from the metric to the English system, we have to *divide* the number of grammes in 1,000 c.c. by $2\frac{1}{2}$. This we do by dividing by 2, and then deducting $\frac{1}{2}$ part of the result. The result will be the number of grains in one ounce.

For example, 4 grains in one ounce are equivalent to $9\frac{1}{2}$ grammes in 1,000 c.c.; or, again, 40 grammes in 1,000 c.c. are equivalent to $17\frac{1}{2}$ grains in one ounce. Of course, when the formula for 1,000 c.c. is found, the shifting of the decimal point will give it for 100 c.c. But it was rather more simple to find it for 1,000 c.c.—Yours, etc.,

CLIFFORD E. F. NASH.

* * * *

LANTERN NIGHTS.

SIRS,—No doubt many of your readers are situated like myself, viz., masters of schools in very poor districts. Many of my scholars come from wretched homes, and during the winter months I have often given them "lantern nights" so as to brighten up their little lives.

At these times I have often been struck with the interest they have taken in scenes touched upon in their "geography lessons," and the desirability of getting a series of slides to illustrate the *whole* has more than once been in my mind. But the expense is too great for most of us, and yet, as a body, we might assist each other materially.

The scheme most feasible to my mind is the mutual exchange of slides (I think this better than lending negatives), or it may be gifts of slides one to the other. I should be glad to do this, or any other plan suggested, so as to secure (or assist others to do the same) a number of typical slides.—I am, Sirs, yours truly,

JOS. JAQUISS.

* * * *

CHEAP PLATES.

SIRS,—In the AMATEUR PHOTOGRAPHER of 10th instant, "An Arithmetician" writes that it could not pay to make half-plates at the rate of 13s. per gross. Now I don't see why plates should not be sold at this price, or even less, from the statement made by Mr. Marsh at a meeting at Dulwich of the North Surrey Photographic Society, "that a good emulsion can be made at an approximate cost of one penny per ounce, which quantity will coat six quarter-plates, or one 10 by 8." By this it is clear, therefore, that a dozen quarter-plates can be made for *twopence*, and for half-plates say *fourpence* per dozen, or 4s. per gross, which leaves 9s. for profit and expenses on each *gross of plates*. Surely this will pay the manufacturer.—Yours truly,

AULD REEKIE.

SIRS,—In response to some queries on this subject in a recent issue, allow me to disclaim any *interest* whatever in the sale of any dry plates. Opinions on this subject seem very diverse, as "Arithmetician" considers dry-plate makers are having a poor time, whilst "E. B. K." thinks they are making rapid fortunes.

My own idea is that there is a *middle* point between 13s. per gross for half-plates and 26s., at which a really good dry plate can be sold at a reasonable profit to the maker, and a guarantee that the unfortunate amateur is not wasting his talents on a worthless plate.

I know nothing whatever of the manufacture of dry plates, and cannot even guess as to what return the manufacturers make on their capital, but it is reasonable to suppose that if one man can afford to sell any quantity at a price less than half the general maker's price, the majority of the manufacturers must make an extortionate profit.

You are at liberty to give the name of the plate-maker to whom I referred to anyone who may apply to you.—Yours truly,

A COUNTRY COUSIN.

* * * *

HYDROQUINONE.

SIRS,—I have been using hydroquinone developer for the last two months, and I have found it to be one of the finest developers I have as yet used. I see Mr. Rowland's letter in last week's AMATEUR PHOTOGRAPHER, and he complains of his negatives being of a deep yellow tinge, and that the developer stains his fingers. It never has behaved so in my experience of it. Mr. Rowland does not make his developer exactly as it should be made. I have this developer in my notes exactly as Mr. Sandle recommends for the Pall Mall plates.

The proper formula for this developer is:—

	1.				
Hydroquinone ..	..	..	..	..	160 grs.
Sodium sulphite ..	..	..	..	..	2 ozs.
Citric acid ..	..	..	..	..	60 grs.
Potassium bromide ..	..	..	..	..	80 "
Water, to ..	..	..	..	..	20 ozs.

	2.				
Sodium hydrate ..	..	..	..	..	160 grs.
Water, to ..	..	..	..	..	20 ozs.

To develop, take equal parts of each solution. It is recommended to use the alum bath after fixing. Markings are frequently caused by its use before.

If Mr. Rowland is enlightened by my theory, I shall be glad to hear of his success.—Yours truly,

LESLIE BAKER.

* * * *

COPYING.

SIRS,—I thought that some of the readers of the AMATEUR PHOTOGRAPHER might find the following useful.

The first point the amateur ought to do in copying pictures and photographs is to select his or her place. Good results are hardly ever obtained in the open air; the amateur ought to do it in a room which is not too bright. In this sort of weather which we are having now, 2 p.m. is a good time, while in summer I always copy about 5 p.m. After the amateur has chosen his room, he should turn his picture upside down so as to be able to make the focussing easier. But now we come to a harder subject; what about the exposure? Well, I always stop down as much as I can, and then give it a quarter as much as I would ordinarily. In developing a photograph copied, put a small amount of bromide in the developer (whatever it may be—I mean whatever developer it may be)—to make the items of the picture more distinct and more separate, if I may use the phrase. The last point, but not less important, is not to hurry over the printing. Do it in as weak a light as possible, and on no account put it under the sun. Apologising for the length of my letter, I am, etc.,

JOHN H. MONTAGU.

* * * *

GLAZED-SURFACE PRINTS.

SIRS,—In response to the inquiry of Mr. W. E. Bex, I have pleasure in adding a few further remarks as to obtaining the high gloss upon various classes of prints. To reply, in the first place, as to the special enamelled plates, they are to be had in two sizes, namely, 9 by 7 and 13 by 11 inches, or larger sizes to order; the price being 1s. and 2s. 3d. respectively, and they are sent post free by Mr. Gotz, 19, Buckingham Street, Strand, or from Mr. J. Fallowfield, Lower Marsh, Lambeth, for 4d. extra for postage.

As prints take some little time to dry, and as several prints can be put on the plates at one time, it is as well to have a larger plate than the prints, to save time.

To give the precise details of procedure, I may say: Take the thoroughly wet prints from the water, and pour a little water on

the polished surface of the special plate; place the print thereon, and press gently to the surface, then run surplus water off, and damp the moisture from back of print with a clean handkerchief; place a bit of clean note-paper over print, and roll it down with a roller squeegee, or the usual sort. Place the plate with prints upon it in a dry room, and let all dry naturally and without heat; this is important, as heat will spoil both plate and print. Prints are not to be touched, but are to be allowed to fall off of themselves, which they will do in about half-an-hour in the case of albumen prints, and somewhat longer for bromide, and for gelatino-chloride and Alpha prints, as they are thicker and dry more slowly. The prints should be put in a book directly they fall off the plate, and pressure put on them, which will cause them to remain quite flat.

To Mount the Glazed Prints.—Proceed as above described till the print has been put on the plate, then take a piece of the special paper (sample of which I enclose), and having cut it to a size so that it is one-sixteenth of an inch smaller all round than the print, paste the white side of the paper thoroughly, and place it carefully on the back of the print (while it is still quite damp) on the plate. You will then have the print backed with the paper on the plate, which is set aside to dry naturally and without heat. After the print and its backing paper fall off the plate, it will be seen to be perfectly attached to the paper, and the print itself will have a magnificent enamelled appearance. Now paste the backing paper; or if the print requires trimming, do it at once, and then paste the black surface of the paper, and mount in usual way. Do not put on too much paste, or it will exude at the edges, and get on the print. Place it under a weight to dry, and it will remain flat after an hour's pressure.

The special paper alluded to is white one side and black the other, and as it is practically waterproof for this purpose, the prints are easily mounted, and retain their splendid gloss.

The paper is cheap, and can be had at most stationers' or of the vendors of the metal plate. It is known as "black glazed paper, white one side."

Two little matters of importance are to be noticed. First, the paper backing must be one-sixteenth of an inch all round smaller than the print on which it is pasted, as no paste must be allowed to get over the edge of the print while on the plate, as in such case the former would be pasted to the plate, and so prevent the print falling off naturally. Second, do not pull the print off at all, not even when it is almost off, as by so doing the print will show a mark. Let it fall off of itself. I send you some prints mounted in the way described, which some of your callers might like to see—one gelatino-chloride print, one silver print, on ordinary mounts, also an Eastman's bromide paper print, with the paper backing attached, and just as it has fallen off the metal plate, with its attractive surface like polished ivory. This bromide print is, as you will notice, ready for mounting, when pasted in the usual way.

Of course, there is the method of mounting described in the AMATEUR PHOTOGRAPHER, by just pasting the extreme edges one-eighth of an inch only of the print, and so mounting it, but this has disadvantages.

I must add that the credit of the idea of the black paper method belongs to my friend, Professor W. K. Burton; at least, I believe so.

I have explained these matters in detail, as it may save many future "queries" in your columns.—I am, yours faithfully,

C. HETHTON LEWIS.

[The prints sent by Mr. Lewis fully bear out his statements.—Eds. A. P.]

SIRS,—I have been reading with much interest the letters on the above. I have experimented with the glass, and I find I can get a very nice glaze. I use no talc, and use up my old negative glasses, remove the film, just damp the photo, and squeegee on to glass, and then apply gentle heat to plain glass side, or place in the sun, when print will peel off itself. When dry, in mounting only damp the back of the photo with wet blotting, and then mount, and no gloss is lost at all. The price of the plates asked for by W. E. Bex is, half-plate 1s., whole-plate 1s. 6d.—Yours faithfully,

F. J. THORNTON.

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PHOTOGRAPHY AT BOULOGNE.

SIRS,—In reply to Col. Verney's letter in a recent issue, I write to give my experience when at Boulogne-sur-Mer for a few

days last summer. I met with no difficulty whatever in obtaining permission to photograph the interior of the cathedral. The Suisse, M. Lafoiret, on my making enquiries, sent me on to M. Libtoin, the Director, and on my calling upon him at his house close by, he received me with the greatest courtesy and gave me the necessary authority at once. Lafoiret was also most obliging when I called upon him with my camera next morning.—Yours truly,

EDWARD JACKSON.

The Complete Photographer;

OR,

THE MODERN RECREATION OF CONTEMPLATIVE MEN.

By H. P. ROBINSON.

CHAPTER II.

The River Side.

PHOTOGRAPHER: Here is a bench under the shade of this old hawthorn which is just coming into leaf; in a month it will be white with may, and perfumed like the "sweet south, breathing o'er a bank of violets." Here we can discourse by the hour, while we watch this bend of the river.

ANGLER: Yonder is just the place for a trout. There in the eddy at the edge of the tail of the stream. Here the trout lie ready for the half-drowned flies that come down the rapids—which reminds me, we also have our wet and dry processes: the old-fashioned style of fly fishing, wherein care is taken to keep the fly afloat, and which I still prefer for rapid streams such as those of Wales, where I usually fish; and the newer art of dry-fly fishing, more suitable to the quieter Hampshire rivers. In this method the fly is made to float and behave more like the natural insect, than the old form of artificial fly. It is the belief of many observant fishermen that the trout and grayling have become so educated by being constantly angled for, that more refined lures have become necessary. I think this is almost as wonderful as any of the amazing stories told by Walton.

PHOTOGRAPHER: Tales are astonishing according to the age in which they are related, and there is little left to astonish us within this our time. There are no undiscovered "antres vast and deserts idle" for travellers to bring tales from now. But we are getting far away from our river-side and photography. Fishing and photography go very well together. The rod and the tripod pack in one parcel, metaphorically and literally. There is no "divided duty" that troubled Desdemona; we have not to sing, "How happy could I be with either, were t'other dear charmer away." Every landscape photographer—which means all amateurs—should be brothers of the angle. When the weather is unsuitable for one it is right for the other, unless you are a pessimistic naturalistic, and take your photography as well as your fishing sadly.

ANGLER: Fishing is like photography too in being an art. Old Izaak says, "Doubt not, sir, that angling is an art, and an art worthy of your learning;" and I think you will agree to this. He goes on to say, "The question is rather, whether you be capable of learning it? for angling is something like poetry, men are born so: I mean, with inclinations to it, though both may be heightened by discourse and practice; but he that hopes to be a good angler must not only bring an inquiring, searching, observing wit, but he must bring a large measure of hope and patience, and a love and propensity to the art itself; but having once got and practised it, then doubt not that angling will prove to be so pleasant that it will prove to be, like virtue, a reward in itself."

PHOTOGRAPHER: It is quite wonderful how each word

applies to the art of photography. I cannot add to or take from it. But we go a little further in our aspirations than Walton. We claim that photography is not only an art, but a fine art, ranking in its way, and as far as it goes—we all have our limits—with painting. Our painting friend, if he were here, would possibly deny this, though I am not sure, for many painters now recognise the brotherhood of photography, or rather they recognise that it is a means of art in the hands of artists. The difficulty is that there is so much photography done and so little that is good, but I think that if we could see the eleven or twelve thousand paintings sent to the Royal Academy any year, all but a couple of thousand or so of which have to be rejected, the most prejudiced painter would agree that not even all painting was art, or that the mere process gave a claim to the proud title of artist. "But, my worthy friend"—to quote, or rather paraphrase, Old Izaak again—"I would rather prove myself an artist, by being learned and humble, valiant and inoffensive, virtuous and communicable, than by any fond ostentation" of art. It is no use saying you are an artist if you do not show it. There is a proverb, "He that would have what he hath not, should do what he doth not," and if we desire to be called artists, we must do the work that will prove us artists. "The effect speaks, the tongue need not;" "Great strokes make not sweet music." But I will not weary you with proverbs.

ANGLER: I recognise those you have thrown at me as from the collection of holy George Herbert, whose life Walton wrote, and whose poems he quotes in the "Angler." There is a trout rising under the opposite bank, where the stream runs into almost still water.

PHOTOGRAPHER: Try him.

ANGLER: He came, but came short. It is too bright and fine—

"A day in April never came more sweet,"

as Shakespeare says, but it is not good for fly-fishing.

PHOTOGRAPHER: Then we will resume our discourse.

ANGLER: What has been the effect of the introduction of gelatine plates in photography?

PHOTOGRAPHER: It has contributed beyond measure to the progress of both the art and science of photography—so far good—but it has been its ruin as a profession.

ANGLER: The amateur?

PHOTOGRAPHER: Yes; but not directly, as you would suppose. It has not been the direct competition between professional and amateur work. It has been brought about this way. At the beginning of photography, fifty years ago, we were all amateurs. Then the noble army of professionals began to grow side by side with the amateurs, and photography grew, as it has grown, like the coral islands of the Pacific, by the indefatigable industry of a multitude of workers. The professionals increased, while in course of time amateurs became almost extinct until 1878-1879, when quick dry-plates began to come into general use. The processes of the art then became, up to a certain extent, so easy, clean, and delightful, that many thousands of people have gone into it as amateurs who would not have touched it in the wet days. Then came the mischief. A goodly proportion of these have succeeded so well in arriving at a certain amount of success, they (in the difficulty of finding something profitable and respectable to do for a living in the present over-crowded generation) have taken to the easy and apparently gentlemanly profession of photography. But so many have been struck with the same idea that there is scarcely room to move, and competition has so brought down prices that it has become a trade depending on a slight profit on the materials used, and the time of the assistants, and it follows that he who *does not* do his own photographs, but goes about touting for sitters,

is the most successful tradesman. It is a great disappointment to those who tried to raise photography to the rank of the liberal professions, and would have succeeded if the art had remained surrounded with beneficent difficulties.

ANGLER: But is it so easy to take a good portrait?

PHOTOGRAPHER: Quite, of a sort. Almost anybody could soon learn to take a portrait sufficiently well, photographically, to satisfy the mass of mankind, especially if he employed a good retoucher. Those who recognise the merits of something beyond the average good do not exist in great numbers. If average persons see a delightful expression, or that look which makes you exclaim, "How like him!" in a portrait, they don't give any merit to the management of the photographer, but attribute it to a happy chance, and think that any photographer would have got as good a result under favourable circumstances. All credit is given to the sitter or to the model. So that it has become the general opinion that all photographers are equally good, and the custom to value a photograph by its size, not by its merits.

ANGLER: What, all! The Millais and Moores of photography and the sign-painter, all treated as a case of the value of the paint and the man's time laying it on?

PHOTOGRAPHER: I cannot point out any single photographer who gets much more for his work because it is better than that of others. There is certainly the case of a few fashionable portrait photographers, and even their prices are not higher now than any decent photographer got say ten years ago. When you can get a cabinet and two cartes for half-a-crown, and this at an apparently respectable establishment, if we may judge from the plate-glass windows, it is time for old photographers to sing the song of Simeon, or the beginning of that canticle, anyway.

ANGLER: Would you advise me to join a society?

PHOTOGRAPHER: Yes, two or three. You will join your local society, of course, and by and by the Photographic Society of Great Britain, and afterwards the Camera Club. All photographers should join the Parent Society, as it is called. It may not be so lively or social as the smaller communities, but that is not its object. It is the central society of England, and should be well supported. Besides, it holds the principal exhibition of the world, and when it becomes ideally perfect, which it must be confessed it is not at present, all important discoveries, and the best results of discoveries, should first see the light through its auspices. The Camera Club is confined to amateurs, and there take place the most pleasant gatherings of photographers. It seems invented for the purpose of showing what good fellows photographers are. The provincial clubs also have the same characteristics. They sometimes, perhaps, overstep the boundaries of modesty in the way of providing medals for themselves, but it is an amiable weakness, and, after all, it is better to encourage young beginners, but when it comes to giving more medals than there are exhibitors, it is, to say the least of it, making them cheap.

ANGLER: I gather, then, that you agree in the main to the awarding of medals.

PHOTOGRAPHER: Most certainly. I consider they are a great incentive to progress. I can well remember my first medal, and how it fired me up to do better work. They were scarce in those times, and you could not get more than two or three a year if you got all possible. They are more plentiful now. But they are sometimes too costly. For instance, nearly every photographer who sent to last year's great Paris Exhibition was pretty sure of a medal, but a small space cost five pounds, and although they were a pleasant fruit of their labours to the eye, they turned to dust and ashes to the lips, for at the end of the Exhibition it was announced that winners may have their medals by

paying for them. Now the price of a gold medal was £15! This is too much to pay even for so great an honour as a medal which is distributed as freely as those of a provincial society. Now let us seek fresh woods and pastures new. A walk with a fly-rod down a stream takes you to places and discloses beauties you may otherwise miss. Peradventure we may expose a few plates on which you may take your first lesson in developing when we meet again in my dark-room.

ANGLER: There is a picturesque-looking beggar! What a chance of embellishing your picture with a suitable figure!

PHOTOGRAPHER: He reminds me of a curious incident that happened to a young lady photographer last autumn. She was photographing in a lovely lane in the country, when a sturdy and ferocious-looking beggar demanded alms. "If you will stand against that tree I will give you sixpence," said the young lady. "None o' that, young 'ooman," said the man, "you want to take my blooming pictur', and send it to the bobbies. It isn't good enough—I'm off!"

(To be continued.)

Winter Work.—XVI.

By T. C. HEPWORTH, F.C.S.

ON FRAME-MAKING.

(Continued from page 39.)

THERE is nothing new about the methods of cutting a mitre which I have detailed. Indeed, I should suppose that the mitre block and shooting board can themselves boast a very high antiquity. And a proof of their efficiency is found in their present popularity with the trade. Peep into the workshop of any professional frame maker, and you will see these venerable but effective appliances still at work, in preference to a number of more modern contrivances for performing the same offices. It is not by any means my purpose to decry the various appliances for cutting mitred joints which are now sold, for some of these are extremely serviceable. It would, indeed, be wise for the frame maker who can afford it to buy one of these machines as a labour-saver; but, from my experience of them, I am bound to admit that the cut which they make, although apparently clean and regular, is all the better for a finishing touch with the plane on the shooting board. Whether this want of exactitude is due to spring in the metal composing the cutting blade of the machine, or to the elasticity of the wood when cut under slow pressure, it is difficult to determine. But I should think that both causes contribute to the result. It may be the outcome of clumsiness on my part, but I certainly find that a frame made in the old-fashioned way has better corner joints than those cut by machine.

If the amateur should have many frames to make, it is perhaps the best plan to cut and shoot the four pieces comprising each, and after placing them in position on a flat surface to see whether the corners meet one another well, to tie up those relating to each particular frame, leaving the joining up to take place when all are ready for that stage of the work. By following this procedure the hand becomes accustomed to each operation involved, and a gradual improvement in the way in which it is executed will soon become manifest.

To make a good join, the best glue must be employed, and it must be used freshly mixed, for, as all users of gelatinous bodies should know, every time the glue is melted loses a certain amount of its tenacity. It must also

be hot as well as fresh, and must be applied to the work neatly and quickly. To glue up a mitred corner, place the longer piece of moulding in the bench-vice in a vertical position, and hold its fellow to it in the position it is to occupy permanently, but slightly overlapping the part which is held in the bench vice. The necessity of this precaution will be seen when the brads to hold the two pieces together are driven home, when it will become evident that there is a natural tendency upon the upper piece to slide downwards on the inclined plane formed by the cut edge of the lower piece. Holding the upper portion in the manner described, a hole should be bored downwards with a small bradawl, and in this hole a brad is inserted with the fingers. The pieces are now separated, the glue applied sparingly to each surface, the pieces joined once more, and the nail driven home with the hammer.

Various forms of mitre-cramps are sold which are used to hold the freshly-joined corner firmly until dry, but here again we can adopt an older-fashioned method with advantage. Cut out of close-grained wood, such as beech, a series of L-shaped pieces, of a thickness corresponding with that of the frame to be made. When all four corners of the frame have been joined up as described, place it flat on a table, and furnish each corner with one of these L pieces. Now stretch a strong cord right round the frame so that each L-piece is held firmly in position, after which, by twisting a stick round the cord, great tension can be put upon it, and the whole frame is bound tightly together until the cord is released after the glue has had time to dry.

Even though a frame has been well made, our work is not finished, for some little art and care are necessary in placing the picture within it. Unless this be done well and in such a manner that the air is wholly excluded, both back and front, our labour will be lost. It is a common thing to see a framed picture with its mount begrimed with smoke or dust, and generally discoloured. The reason of this is the omission of one very necessary precaution which should always be observed in framing water-colour drawings, photographs, or any description of picture which must be protected by glass. This consists in sealing the glass into the frame so that no contamination can reach the face of the picture. The way to do this effectively is as follows:—First see that both frame and glass are perfectly clean, and that the latter fits the rebate without leaving a vacant space between the glass and the inner side of the moulding. Glaziers are the most careless of workmen, and it seems a matter of indifference to them whether a glass fits well or badly in a frame which is entrusted to their tender mercies, a difficulty which the amateur will avoid if he only will take the trouble to learn to use a diamond himself. Having a well-fitting glass placed within the frame as it lies face downwards on a blanket-covered table, proceed to attach some previously cut slips of good stout paper by means of glue, to the edge of the glass. This should be done in such a way that the glass is actually glued into the frame all round, and cannot fall out when the frame is inserted. Next place the mounted picture upon the glass, and finally fill in the back with the usual board. A good frame maker will use for this purpose a properly planed and joined board, so that it has no seams through which the ever-present dust can get inside. But the modern cheap and nasty frame maker thinks it quite sufficient to insert a few rickety and very knotty boards, which would be quite useless for any other purpose under the sun. The quality of the board does not really matter very much, if it be, after nailing into the frame, completely covered with good brown paper by means of glue. Dust and smoke must be kept out by some such means, and their exclusion is particularly necessary in the case of photographs.

All narrow frames, whether they be of oak, ebonized wood, or any other material, are much improved by the insertion of a gold slip next to the picture. This can, like the mouldings, be bought by the length, and can be obtained of the same dealers. It is a false economy to use anything but a slip which has been covered with real gold leaf. The imitation ones look well for a time, but any scratch unseen at first soon develops into a black line, and this is the case even if it be placed under the glass. This course I recommend in all cases, even with the real gold slip, for it is by this means protected from all external influences, and will always remain clean and bright.

It will be seen later on that gilded frames receive a final coating of clear size made from parchment cuttings. This seems to somewhat dull their appearance when first applied, but the coating is a useful protector from dirt and dust. A frame of this description which has begun to look as if it required re-gilding can often be renovated by the homemaker. All that is necessary is to carefully sponge the frame with hot water, and to once more give it a coating of protective size.

(To be continued.)

Our Contemporaries at Home and Abroad.

THE *British Journal of Photography*, in an article on "The Acid Fixing Bath," says, "But, as matters stand, it appears to us that the worst that can happen is the deposition of a minute trace of sulphur on the surface of the film, whence it is easily removable by friction." And in one on "The Secrets of Photo-Mechanical Processes," it says, "We have even known half-a-dozen different processes to be tried in about as many days, and then condemned as being worthless, and that, too, by persons who have had no previous knowledge whatever of them, or of any other process to which they are analogous. . . . But we must protest against the often wholesale condemnation of writers, on the strength of a few experiments, by those who are absolutely ignorant of the very principles upon which the processes are based." Articles: "The Development of Gelatine Lantern Slides," "The New Benzoline Limelight," "Illumination of Negatives for Transparency Printing by Artificial Light," "The Standard of Excellence in our Art," "Letter from Germany," etc.

The *Camera*, speaking of Rejlander's pictures at the Camera Club, says, "His artistic proclivities and training enabled him to overcome all the mechanical difficulties of his task, and he gave a direction and impetus to artistic photography which will render his name respected and his work admired by all who know either the one or the other." Articles: "Detective Photography," "New Platinum Toning Process," "British Association of Photography," "Photographic Chemicals," etc.

The *Deutsche Photographen-Zeitung* (Wiemar) contains an article on the conference of delegates from German photographic societies' meetings at Wiemar, in July and August last.

The *Photographische Nachrichten* (Berlin) contains an interesting article on "Magnesium Flashlight and its Use."

The *Photographic News*, in its notes, regrets the fact that well-known pictures are not more frequently reproduced by photography, and says, "It has been urged that if photographs of a picture were sold at a low rate the sale of engravings would be injured, but we fail to see any force in the argument, as the classes of buyers are totally different." In an article on "Baskets for Photographic Apparatus" it says, "A basket-case should be so made that it can be used like a portmanteau in towns, and like a knapsack in the country, and should be furnished with locks and keys, so that it can be left in cloak-rooms at railway stations. Straps with fastenings and small padlocks are convenient for locking." Articles: "Sending Pictures by Telegraph," "Bromide Enlarging and Printing," "Photographing the Baby," "Package of Photographs for Postage," "Vapour Development," etc.

The *Photographic Record* (Manchester), in an article on "Exposure and Development," concludes with the following good

advice, "Don't buy so-called cheap apparatus if you wish to succeed in doing first-class work; don't use half-a-score different makes of plate, and think all will work alike; don't find fault with your tools before you are certain the workman is not to blame; don't imagine you can learn all about photography by simply reading an A B C guide on photographic matters. Practise yourself until proficient; don't go in for instantaneous work if you are only just beginning photography; don't think you can master the giant without tact and patience; don't use everybody's formula and expect to get good negatives; don't try to hurry development, the best results come from slow development, remember the tortoise was the winner of the race; don't under-expose, it is fatal to good work." Articles: "Bromide Printing," "Algiers and Constantine," etc.

The *Photographic Review*, in its concluding number, speaking of Tents, says: "We may say that, in our opinion, the tents now made and sold by our leading firms of dealers are quite superfluously fitted and far too high-priced to fill the actual wants of the out-door landscape photographer." In the valedictory article it says, "We wished to show that even from a commercialist point of view it is best to endeavour to be absolutely impartial, and to strain nothing in favour of advertisers or any other class. We have done something towards this; but in trying to do too much work of very divers sorts, have so far overstrained our strength as to make it absolutely needful to have some rest, and that immediately; indeed, it became a case of compulsion. The work of the *Review* was so personal and has been so completely in our own hands, that it did not seem practicable to arrange with others to carry it on, especially as there was some uncertainty as to the length of time which would be required as a rest. Consequently it seemed better to cease publication altogether than to risk the issue continuing with an altered tone or style." Articles "Preserved Sensitised Paper," "What is Art?" etc.

The *Photographic Times*, in an article on "Eikonogen," says, "Another property of eikonogen whose applications are obvious, is that by decreasing the dose in a given formula nothing is lost in the details. Not so with hydrochinon, even by increasing the dose of alkali to force out the details. Fogging is the only result. Pyrogallol, on the other hand, behaves like eikonogen in the case in question, the difference being in the intensity obtained, which is often insufficient with the latter." There is a fine reproduction of a study of trees, and articles: "Art and Photography," "Lens Images made Visible by Electric Current," "Submarine Photography," etc.

The *Photographische Rundschau* contains a reproduction of a view of Berchtesgaden, and of a stereoscopic slide representing two children playing at chess. It contains also the index for the last volume. There are articles on "The Amyl-acetate Lamp and Orthochromatic Plates," "The Practices of Amateur Photography," "Stereoscopic Work," "Films," etc.

Photography, speaking of exhibition matters, says, "We should now like to see greater power placed in the hands of the judges, and instead of their being expected to give two awards in each class, let the number be made according to the quality of the work, withholding altogether if none reach a certain standard, or giving three or even four if a class be found deserving of such a number." In another article, dealing with the progress during 1889, it says, "This process of Mr. Clark's—we call it his, though others have claimed priority—will probably remain with us one of the standard toning methods." Articles: "West London Exhibition," "Death of Father Perry, S.J.," "Photography the Handmaid of Science," etc.

The *Revue Suisse de Photographie* (Geneva), in an article on "Art in Photography," says, "One error into which beginners often fall, is that of desiring to take in a wide view of country in their picture. It seems to them that the fuller the landscape is of objects the more interesting it is. It is necessary, on the contrary, to know how to limit the subject, to look out the central point of interest which ought to be in evidence, and only to take into the picture that which is necessary." Articles: "Permanence of Prints," "Photography for Beginners," "Apparatus," "Phototypie," and "L.S. Jaccard-Bornand, Founder of the Lausanne Society." There are phototype reproductions of prints of the Chateau de Blouay; the entrance, and a view from the east.

The *Studio* (N. Y.) is a very interesting number, and contains

an engraving of an Etruscan Cist, part of the Castellani Collection, with an article upon it. Other articles on Durer's "Holy Family," "Rodin, the Sculptor," "A Lord Mayor's Show," "Of Cast Iron," etc.

Wilson's Photographic Magazine (N.Y.), in an article on "Narcotic Photography," says, "Dr. Emerson's articles criticised the photographs at the late exhibition with his usual out-of-focus eyes; at least, that is supposed to be the cause of his peculiar views on photography in general. The real reason is, we believe, that Dr. Emerson is labouring under some optical narcotic which confuses his ability to see sharply. . . . We do not know (and our experience is considerable) of a single disciple of narcotic photography in America, and we do not think that there is any likelihood of such a freak being found on our shores even by the incisive and alert proprietors of the dime museums, we are in focus." Articles: "Enoch Arden" (illustrated), "Convenient Warming Apparatus," "Figures in Photographs, and Incongruities Otherwise," "Photography Abroad," etc. There is a beautiful print, entitled "Sweetness," as a frontispiece.

Exhibitions.

THE WEST LONDON SOCIETY'S EXHIBITION.

This young but rapidly growing society held its first annual exhibition of members' work at the Addison Hall, W., on Friday and Saturday, the 10th and 11th inst. The exhibition, as a whole, presented an attractive appearance, and the exhibits in regard to quality were fully up to the average, but we note with some regret that the majority of the exhibitors content themselves with very small work. We do not mean to suggest that a small picture may not equal, in every respect save size, one of large dimensions, yet the effect when a number of quarter-plates or 5 by 4 in. pictures are exhibited together upon a screen can rarely be otherwise than "spotty."

We understand from the Secretary that he experienced considerable difficulty in inducing the members to compete. If this were so, we consider it a circumstance very much to be regretted, for we hold it to be the bounden duty of every member to contribute something towards the success of the exhibition. We regard healthy, public competition as being one of the most valuable incentives to the production of good technical and artistic work.

The society is to be congratulated upon its good fortune in securing such central and commodious premises as the Addison Hall for its place of meeting. The hall itself was well lighted, the pictures being shown to great advantage, and the fact that the whole of the hanging was done on the Friday in time for the judges, Messrs. George Davison, F. P. Cembrano, and F. M. Skipworth, to perform their duties by daylight, speaks well for the energy of the executive.

In Class 1 (landscape, half-plate and under) some very good work was shown. Walter L. Colls took the President's silver medal and also the first bronze medal for a frame of quarter-plate Dutch landscapes. These are distinctly Emersonian in treatment, which may perhaps account for the award. In our opinion there was more deserving work shown. G. F. Blackmore gained a well-earned medal for "The Silver Lining," a most charming effect; "Romney Lock" was also good, but with "Eventide" we confess we were not so well pleased, the dark corners being suggestive of defective covering power in the lens employed. The third bronze medal goes to J. A. Hodges for three delicately-treated Welsh views in platinum, of which we consider "Conway Quay" the best. A series of Thames views, by J. Wilson, showed good treatment, but were rather spoilt by over-printing; the style of mounting also tended to lower the tone, and we fancy the prints shown did not do full justice to the negatives. L. C. Bennett showed some delicately-vignetted silver prints of views in Wales. Henry Selby's "Grey Morning, Dovedale," was the best of a good series. The last three exhibitors should run the medallists very closely in future competitions.

In Class 2 (landscapes larger than half-plate) there was practically no competition, and we are at a loss to understand why a medal should have been awarded to a very ordinary view in platinotype of a rather hackneyed subject, "Pont-y-pair, Bettws-y-coed," by W. L. Colls.

In Class 3 (small architectural views) J. A. Hodges took the medal for a view of Conway Castle and two interiors at Plas-

Mawr. These subjects were well chosen and fully merited the award. Wyndham Rickford showed good clean work in regard to technique, but some of his pictures were not well composed. Some tiny ecclesiastical studies by Leslie Selby also showed promise, though such subjects are more suited to larger-sized plates.

In Class 4 (large architecture) C. Whiting obtained a medal for a fine 10 ins. by 8 ins. view of "Exeter Cathedral Choir." Some views of "Holland House," by Chas. Dixon, were very interesting, and exhibited good technical ability. "An Interior," by T. S. Hazeon, was very much under-exposed, and the contrast between light and shade was far too great. His "Bedford Park in Winter," however, was a very charming subject.

In Class 5 (portraiture) J. Hyatt showed a beautiful study of a girl's head, which, however, appeared not to have attracted the attention of the judges.

In Class 6 (groups) some interesting photographs of Chinese life were exhibited by S. Tingfau Chang, of the Chinese Legation, "Sister and Brother" being noteworthy.

In Class 8 (genre, or figure pictures) no award was made, although some photographs of considerable merit were exhibited. F. H. Low's "Dinner Time" was a charming study, and we think deserved some recognition. "Homeless," by G. F. Blackmore, was a suggestive picture, but rather lacking in vigour.

The action of the judges in withholding all the awards in the enlargement classes is, without explanation, rather difficult to understand, some of the exhibits being of considerable merit, both in regard to pictorial effect and technique. In the landscape class F. H. Low is the principal exhibitor; his "Barges at Kew," but for a technical defect in the sky, being a very fine picture. "In Cassiobury Park" we like even better, the "tonality" being good, and the subject charming; both pictures, however, would show to better advantage in darker frames. L. C. Bennett's "Bettws-y-Coed" is well executed, but a trifle over-exposed. J. A. Hodges' "At Aber" is unsuitably framed, and not pleasing in colour. In the Genre Class F. H. Low's exhibits again attract attention. In "A Quiet Chat" the technique is good, although the grouping is at fault, the figures being scattered; we have, in fact, in this picture, two separate studies. "Watching the Amateur," by L. C. Bennett, is a good study—the difficulty of avoiding hardness in photographing a white-washed wall having been very skilfully overcome. Three enlargements by G. E. Varden are very soft and velvety in tone. "Spinning the Top," by J. A. Hodges was, in the opinion of the judges, more a painting than a photograph—a rather severe criticism on the few brush touches which have been made. J. Martin Dickens shows a very good portrait enlargement which would put a great deal of professional work to shame.

In the lantern-slide section no award was made in the landscape class, though many of the slides were quite of average merit, a set by J. Wilson and one by L. C. Bennett being of very high quality.

In the architectural class C. Whiting obtained a medal for a series in wet collodion. These, although showing good technical work, were thin and lacking in vigour; a series by J. A. Hodges rather suffering in the opposite direction. No awards were made in the remaining classes.

Upon the whole, we consider we have reason to congratulate the executive of the West London Photographic Society upon the success of its first exhibition, and we shall look forward with pleasure to inspecting and criticising the productions of their members at future exhibitions.

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BIRMINGHAM PHOTOGRAPHIC EXHIBITION.

THE Birmingham Photographic Society held their annual exhibition (open to amateur members only) on Tuesday and Wednesday last, January 21st and 22nd, in the Temperance Hall, Temple Street. There were twenty-two classes, but of these two attracted no competitors; and in two others (stereoscopic and photo-micrography) there was only one exhibitor. The total number of exhibitors was thirty-nine, and the number of pictures shown exceeded 400—remarkably good for a young society holding what is practically only its second exhibition. The judges were Messrs. Geo. Bankart, P. C. Cembrano, jun., H. S. Fry, (Rev.) F. C. Lambert, P. Lange, A. Pringle, H. P. Robinson, and A. Stroh—quite a galaxy of talent. The awards were as follows:—

Class 1 (Instantaneous).—Silver medal, W. Jerome Ferriss;

honourable mention, G. J. Sershall. The prize frame is a whole-plate of "Leap-Frog."

Class 2 (Landscape).—Silver medal, E. H. Jaques; honourable mention, J. C. Huxley, H. G. Sears, E. C. Middleton. The winning print is a fine platinotype, in which gradations of distance, from a brawling stream in the foreground to distant snow-clad mountains, are most beautifully expressed. A large class.

Class 3 (Best Developed Contact-print).—Silver medal to E. C. Middleton (for "A Gloucestershire Farm" in platino); hon. mention, C. J. Fowler.

Class 4 (Transparencies).—Silver medal to W. Rooke ("Dove-dale"); hon. mention, B. Karleese.

Class 5 (Genre).—Silver medal, E. C. Middleton ("Village Gossips"); hon. mention, H. G. Sears, C. J. Fowler.

Class 6 (Interiors).—Silver medal, E. H. Jaques ("Coleshill Church"); hon. mention, G. Wilkes, B. Karleese, W. Rooke, C. H. Palethorpe, A. J. Leeson.

Class 7 (Prints from Film or Paper Negatives).—Silver medal, J. H. Pickard ("Fly-Fishing, Dovedale").

Class 8 (Enlargements).—Silver medal, F. Pike ("Near Dux-ford-on-Thames"); hon. mention, W. Jerome Harrison.

Class 9 (Portraiture).—Silver medal, C. J. Fowler ("Mr. John Warner"); hon. mention, H. G. Sears.

Class 10 (Lantern Slides).—Silver medal, A. R. Longmore; hon. mention, E. H. Jaques, W. Rooke.

Class 11 (Seascapes).—Silver medal, E. H. Jaques ("Sunrise in Norway"); hon. mention, F. Hoskins, W. Jerome Harrison, G. J. Sershall, H. R. Leech, J. H. Manly.

Class 12 (Architecture).—Silver medal, J. C. Huxley ("Chiddingstone").

Class 13 (Stereoscopic).—Hon. mention, G. Wilkes.

Class 15 (Animal Studies).—Bronze medal, C. Phillips; hon. mention, C. H. Palethorpe.

Class 16 (Reflections).—Prize to H. W. Southall.

Class 17 (Street Trades).—Prize to E. C. Middleton.

Class 18 (Obernetter or Aristotype Print).—Silver medal to E. Hendren.

Class 19 (For Beginners).—Hon. mention, C. J. Fowler.

Class 21 (Best Film Negative).—Hon. mention, H. W. Southall.

The President of the Society (J. B. Stone, Esq.) gave a short address on the first night; and there was a capital lantern display on each evening, the optical lantern being most ably manipulated by Mr. E. Howard Jaques.

The exhibition was well attended, although the weather was against it. The pictures were declared on every hand to represent a very great advance since last year, and to show the capital work which the Society is doing in Birmingham. Considering that the show was this year a strictly "society" and "amateur" exhibition, we consider the general average of work good and commendable. A large proportion of the pictures were in platinotype. The Secretaries of the Birmingham Photographic Society (Messrs. J. H. Pickard and A. J. Leeson) worked hard to deserve success; and so, too, did the Exhibition Committee (Messrs. Harold Baker, E. H. Jaques, B. Karleese, S. G. Mason, and W. S. Horton). Mr. Baker—whose artistic work is now well known—sent a fine series of portraits (not for competition). Next year we trust to be again favoured with an invitation to visit Birmingham, and we feel sure that if the local society then decide to promote an "open" exhibition (including apparatus, etc.), it will, with the experience now gained, be a complete success.

WE have received a catalogue of apparatus and chemicals from Mr. A. E. Atkins, chemist, of Newport, Mon. The list is a full one, and certainly sufficiently so to prevent the traveller carrying plates, chemicals, or minor apparatus with him to that neighbourhood.

THE MODEL CAMERA.—In answer to numerous queries, we are able to state that Mr. James Braine, 22, Bedford Terrace, Moray Road, London N., is the sole maker of the "Model" (Combination Hand and Pocket Tourist's Camera), as described in the AMATEUR PHOTOGRAPHER of 13th ult.

"PHOTOGRAPHIC MOSAICS FOR 1890" keeps up its character for style and utility. All the articles are short and to the point, and all questions of interest to the amateur are dealt with by contributors from all parts of the globe. There are a number of good process reproductions which add to the attractiveness of the book.

Societies' Meetings.

NOTE.—In this column the Editors can, of necessity, only give a brief summary of the proceedings. The PHOTOGRAPHIC SOCIETIES' REPORTER was established to report the transactions of Societies, and the Editors will be glad to receive reports for insertion as early as possible after the meetings have been held, and at the latest before the 24th of each month.

ABNEY CAMERA CLUB.—At the ordinary weekly meeting of the above, held on January 17th, after the discussion of a couple of questions from the box, the Hon. Sec., Mr. F. H. Leeds, A.I.C., read a paper on "The Chemistry of Photography." The lecturer confined his attention to the theoretical consideration of the every-day manipulations of photography, elucidating the chemical symbols and equations by means of a black-board. The paper was listened to with great interest by the members present, and at the close a hearty vote of thanks was proposed by Mr. F. W. Hart, F.C.S., seconded by Mr. Hibberd, who both fully endorsed a remark made by the lecturer, that no one could hope to be a uniformly successful photographer without considerable acquaintance with the theoretical side of the subject. The discussion was postponed till January 24th.

BRIGHTON PHOT. SOC.—The usual meeting was held on January 14th, the President in the chair. After the usual business had been transacted, Captain Barnes gave an address on "Photo-Micrography," which was listened to with interest by those present. Captain Barnes illustrated his remarks with several lantern slides, and a number of excellent negatives, chiefly taken on Carbutt's celluloid films. He also showed lantern slides made on Carbutt's transparent films. These were examined with much interest. A hearty vote of thanks was accorded Captain Barnes for his paper.

BRIXTON AND CLAPHAM CAMERA CLUB.—The usual fortnightly meeting was held on the 17th inst.; Mr. Coade in the chair. After the formal business of the evening had been disposed of, Mr. H. J. Green read a paper on "Bromide Printing," afterwards demonstrating the process. A letter was read from Dr. Emerson offering the society a copy of his work, "Pictures of East Anglian Life," which kindness was unanimously accepted.

GLASGOW PHOT. ASSOC.—The third general meeting of the session was held on the evening of Thursday, January 16th, in the rooms of the Philosophical Society, 207, Bath Street, Mr. William Lang, jun., F.C.S., President, in the chair. Mr. John Annan showed two volumes of calotypes printed in 1844-45, and several of the original negatives from which the prints had been made. Mr. Fred. Mackenzie gave a demonstration of timing speed of drop shutters by means of a tuning fork. Mr. Wm. Lang, jun., read a communication, "The late Cuthbert Bede, and his work, 'Photographic Pleasures.'" The whole of the various sketches in the volume by the author were shown by means of the society's lantern. Mr. L. N. Armstrong afterwards exhibited his new illuminating chamber for photographing at night by means of coal-gas. Copies of Mr. Lang's paper "Fifty Years' Photography, 1839-89," communicated last session, and printed at request of association, were afterwards distributed to the members present, as also tickets for forthcoming popular meeting, "Paris and its Exhibition," by ex-Provost Clark, of Paisley.

HALTWHISTLE AND DISTRICT.—A special meeting was held on the 17th January for the purpose of exhibiting the lantern slides kindly lent for the occasion by the Editors of *Photography*. A number of members' friends were also present. Major Anne, the President, lent his lanterns, and also assisted in their manipulation. The slides were very much appreciated, and the frequent applause was evidence of the pleasure they afforded the members. They were an excellent collection, the range of tone being wonderful without the aid of additional colouring. Votes of thanks to the Editors of *Photography* and to Major Anne terminated the meeting.

LANCASTER PHOT. SOC.—At a meeting of the above Society held on Tuesday, January 14th, three new members were elected. After the ordinary business of the meeting, Mr. T. Hall gave an interesting lecture on bromide printing accompanied by practical demonstration in the art. Exposure was first dealt with, followed by development; Mr. Hall's thoroughly practical manner of dealing with the latter process being watched with great interest by the members present. In all, four prints were dealt with; the results obtained were most satisfactory. A discussion took place on various points raised during the lecture, such as

best kind of negative to use, choice of developers, light etc.; and led to much useful information being obtained. At the close a hearty vote of thanks was passed to Mr. Hall for his lecture. The Secretary gave notice that at the next meeting (February 11th) a paper would be read on "Eikonogen."

LEICESTER AND LEICESTERSHIRE PHOT. SOC.:—A regular meeting of the Society was held on the 8th inst., the Vice-President (Mr. S. S. Partridge) in the chair. One member was balloted for, and unanimously elected, and one member proposed for ballot at next meeting. The election of officers for 1890 was then proceeded with, the following being the result: President, Mr. S. S. Partridge; Vice-President, Mr. J. T. Cook; Treasurer, Mr. W. Sculthorp; Secretary, H. Pickering (High Cross Street); Committee, Messrs. Sculthorp, Wilson, Pierpoint, Porritt, Leeder, F. Brown, Blackwell, and Bankart. It was decided to offer the following medals for competition among the members for the ensuing session:—Silver and bronze medals by the Society, for the two best sets of six lantern-slides; silver and bronze medals by the Society, for the best and second best six prints, whole-plate; silver and bronze medals by the past President for prints under whole-plate; and silver and bronze medals by the President for quarter-plate prints. It was arranged that the competitions take place as under:—Lantern slide competition at the February meeting; enlargement competition at the March meeting; print competition at the April meeting. Mr. Pierpoint proposed, Mr. Joliffe seconded that a small sub-committee be formed to arrange the details of excursions. The following were proposed on the Sub-Committee: Messrs. Pierpoint, Porritt, and Bankart. The conditions of competition as arranged for last year were accepted.

MANCHESTER AM. PHOT. SOC.:—The monthly meeting was held in the Athenæum on Tuesday, the 14th inst., Mr. Flower presiding. The President stated that the annual exhibition of the society would be held in the Manchester Athenæum in the middle of February. Mr. McKellen exhibited his latest detective camera, and a plate magazine which promises well to satisfy a long-felt desideratum among photographers. The magazine is an ingenious piece of mechanism, too simple to get out of order, and fitted inside the camera without increasing the size of it. A dozen plates can be stored in the camera. Mr. McKellen stated that now he never thought of using a tripod for outdoor work. Several of his friends had sent him specimens of some excellent work done with this camera. By means of a "finder" he could take a picture as well carrying the camera under his arm or holding it in front of him. The plate magazines are made to fit any other camera; and other lenses could be fitted to this detective camera. The days of dark-slides are now evidently numbered for outdoor photography. No one would think of filling his bag with them when the same space may be filled with plates ready sheathed for the plate magazine. A quarter-plate camera, charged with twelve plates and shields ready for use, weighs six pounds. Mr. McKellen's improvements were applauded as he explained them. An exhibition of slides giving charming views of Holland followed. The meeting was the largest during the season.

OXFORD PHOT. SOC.:—At a meeting of this society held on the 16th inst., a very interesting paper was read by Mr. E. T. Shelton on "Enlargements," illustrated by the enlarging lantern. The process of daylight enlarging was also fully explained by diagrams on the blackboard. The paper was very much appreciated by the members, and a hearty vote of thanks was unanimously given to Mr. Shelton. Some very good samples of enlargements on bromide paper were sent for inspection by Messrs. Fry and the Eastman Company. The next meeting will be held February 6th.

WINDSOR AND ETON PHOT. SOC.:—On January 15th an entertainment was given in the large hall of the Albert Institute, consisting of an exhibition of ninety slides of various subjects. The slides were divided into sets, for each of which a short description was prepared by the Rev. A. H. Blake, M.A. The first series comprised views of Moscow and other parts of Russia, and interesting local views, some taken recently and some at the time of the Jubilee and Agricultural Show. One picture of the lower ward and Round Tower (Windsor Castle) was taken by a member when out with the Phot. Convention during their summer visit to Windsor. On the conclusion of the first series, the Mayor of Windsor (Mr. J. L. Hollis) ascended the platform and read the "Ancient Mariner," and as he read, the lantern operator projected pictures (twenty-seven altogether) upon the screen

illustrating the text. The Rev. A. H. Blake, starting from Windsor Bridge, led the audience a charming ramble round by the locks, through Windsor Castle, up the Long Walk, past Frogmore, the double gates (summer and winter scenes), the Copper Horse, through Virginia Water, then to Runnymede and other places of interest on the river banks, making his way to Burnham Beeches, and coming home by Old Repton church. Each point in his narrative was illustrated by photographs on the screen. The next part of the programme consisted of microscopic slides. The last section of the programme consisted of military and naval scenes, including H.M.S. Victory, portraits of Lord Wolsley, Col. Burnaby, the Charge of Kassassin, and battle of Tel el Kebir, finishing up with the portraits in a group of the survivors of the Balaklava Charge, taken last year by a member of the society. With the exception of the two views of Kassassin and Tel el Kebir, which were necessarily taken from paintings, and therefore showed somewhat faintly, all the slides were of first-class order, and were repeatedly applauded by a full hall.

“Thursday Evenings” at the Camera Club.

BY ONE OF OUR STAFF.

THE meeting on Thursday, the 16th inst., was a most interesting one, and it is to be regretted that the attendance of members was not larger, though this may possibly be due to the fact that the members who stayed away know all about light and its action, and so felt it to be quite unnecessary to run up for the purpose of hearing Mr. R. Tindall discourse on "Plane Polarisation of Light." It is perfectly true that the lecture was essentially an elementary one, but it is possible that it may be only the first of several which Mr. Tindall may deliver before the members of the Club. The lecturer was provided with an efficient lantern supplied with the limelight, and by means of it he graphically illustrated on the screen most of the points touched upon in the course of the evening. He showed the double image given by Iceland spar, and the curious effect of one image being obliterated when the spar was turned so that the pencil of light struck at a certain point. The "quenching" or oblitative effect of tourmaline was also shown, and Nicol's prism explained and experimented with. Pointing out that colours were caused by the different wave lengths of a ray of light, Mr. Tindall showed how certain colours could be obliterated by double refraction from films of different thicknesses and substances, as mica, selenite, soap-bubbles, etc., the colour left by the film being always complementary to the colour obliterated from the spectrum. Some very pretty experiments were given in illustration of this; images of church windows, butterflies, etc., made of substances which quenched certain colours were thrown on the screen, and on the figures being turned round the colours on the screen changed to their complementary colours. These experiments were all shown with polarised light, ordinary light not having the same effect. Crystals of tartaric and benzoic acid and salicin threw most gorgeous prismatic patterns on the screen. In concluding, Mr. Tindall said that certain light reflected from the sky was polarised, and suggested that the interposition of a Nicol prism in such cases would enable delicately shaded flowers to be more correctly and satisfactorily photographed than was the case at present, and he showed two cloud negatives, one taken with and one without the interposition of the prism, and the difference was marked. Of course, the exposure had to be longer, as the amount of light was reduced by the prism.

The Chairman, Mr. H. M. Elder, in thanking Mr. Tindall for his able and interesting lecture, said the facts put before them might be found useful to them in their photography. He had been hoping that there would have been a good discussion, but the immensity of the subject seemed to have overwhelmed the members. He hoped they would have many such scientific papers read before them, which, if they did not bear absolutely on photography, would enable them to use their instruments to the best advantage.

On Thursday, January 30th, Mr. T. R. Dallmeyer will read a paper "On Some Practical Deductions from the Law of Conjugate Foci."

To Correspondents.

THE insertion of **QUERIES** and **ANSWERS** is attended with much labour, and it is requested that the questions asked and the answers given shall be short and to the point. No charge is made.

All communications for the columns are to be addressed to **The Editors, "Amateur Photographer,"** 1, Creed Lane, Ludgate Hill, London, E.C.

RULES.

1. Write clearly and distinctly on one side of the paper only.
2. Write each Query or answer on a separate sheet of paper.
3. Write the name and address legibly on the back of each communication, and sign all Queries and Answers with name or *nom de plume*.
4. All matters for these columns MUST be received by **TUESDAY MORNING'S POST**.
5. The Editors do not undertake to answer questions by post.
6. In answering Queries correspondents are requested to mention, in every instance, the number and full title of the query referred to.

QUERIES.

3382. Framing.—I want (in my leisure time) to learn picture-frame making. Is there a book to be had on the subject; if so, where? Can any of our readers tell me how to bronze or gild on wood or paper, and how to clean old gilt or bronze frames?—**D. O.**

3383. Focus.—I have two half-plate portrait combinations, and want to use them in a binocular lantern, but they differ slightly in focal length, and used thus give discs slightly varying in size. Can some one tell me if by remounting or otherwise I could equalise their focus, so as to work them together?—**GEO. RATHBONE.**

3384. Magnesium Light.—In photographing by magnesium light I could not get a sufficient exposure without burning as much as 4 ft. of ribbon. How is it possible to photograph by flash light if this takes so long? Or have I made some mistake? No text-book enlightens me. There were two alcohol-gas burners in the room at the time; do they affect it at all? The camera used was Lancaster's Instantograph.—**IGNORANCE.**

3385. Dust on Negative.—I was photographing by magnesium light one night. The plates, when developed, presented an appearance, on being held up to the light, of having been dusted over with fine sand. What is the cause? Is it the consumed magnesium dust flying through the room, and, if so, how is it to be avoided? I used magnesium wire about two or three feet off camera. Can it be remedied, as the print is spoilt taken from it.—**IGNORANCE.**

3386. Flashing Light by Electricity.—I should be glad of any hints as to making exposures and flashing light by electric current, instead of by pneumatic means, as is usually done.—**ELECTRA.**

3387. Print Changing Colour.—Want to know cause of prints turning brown on being immersed in fixing bath, strength of which is

Hypo	...	...	4 ozs.
Sulphite of soda	...	...	20
Water	...	...	1 dm.
Ammonia	...	...	10 per cent. sol.

having come out of toning bath a good purple?—**TYRO.**

3388. Single Lens.—I intend to purchase a good single lens for landscape and shutter work. Could any brother amateur give me his opinion of Messrs. Taylor, Taylor, and Hobson's rapid-view lens, and if the half-plate size could be used on a quarter-plate double extension camera?—**W. S.**

3389. Burnishing.—Will any kind reader give me any information as to burnishing photographs?—**FLUSH.**

3390. Whole-Plate.—Some time ago a correspondent mentioned having had an extension fitted to the back of a half-plate camera, by means of which he could insert a whole-plate dark slide. Could he or any other brother kindly tell me where I could get this done for a reasonable sum?—**NORMANDY.**

3391. Loan of Negatives.—Will some kind reader please lend me some negatives of views and natural history subjects, to make lantern plates from for charitable purposes? I will pay cost of carriage, and return them.—**J. A. WATSON.**

3392. Lantern Slide Making.—Can any reader give details of the enamelled albumen process for

making lantern slides? Is it a wet process, and is it suitable for an amateur?—**SICILIAN.**

3393. Lantern Jet.—Can any one kindly let me know where I can get jets for the optical lantern made? I want to employ some person who actually makes the jets to do some special work for me.—**OPTICAL LANTERN.**

3394. About Ilfracombe.—I am going to Ilfracombe in February for ten days. Will any reader kindly oblige with particulars of the town for photographing? Is there any conveyance to the villages in the neighbourhood at this time of the year? Thanking in advance.—**INSTANTO.**

QUERIES UNANSWERED.

Dec. 6th.—Nos. 3274, 3277, 3283, 3284, 3285, 3289, 3290, 3291, 3293.

13th.—Nos. 3297, 3298, 3300, 3302, 3304, 3305, 3306, 3307, 3312, 3314.

20th.—Nos. 3318, 3319, 3321, 3324, 3325.

27th.—Nos. 3330, 3332.

Jan. 3rd.—Nos. 3339, 3347, 3348.

10th.—Nos. 3353, 3354, 3356, 3358, 3359, 3364, 3366, 3367.

17th.—Nos. 3339, 3370, 3371, 3372, 3375, 3376, 3378, 3379.

ANSWERS.

3351. Spotted Prints.—Evidently either the negative or the paper was damp. Remedy; take care the negative is thoroughly dry, and as an extra precaution for this time of the year, when it takes a good time to print, give it a coat of varnish.—**EDYLLION.**

3352. Detective Camera.—Certainly not a wide-angle lens. As good a lens as any is the orthopan-actinic rapid rectilinear of Newton, of Liverpool; back focus, $7\frac{1}{2}$ ins., price 50s. I have one of these lenses; it gives wonderful definition, and I would not part with it on any account.—**EDYLLION.**

3352. Detective Camera.—The lens for use in half-plate camera should be selected according to the chief object for which it is wanted. For rapid work a wide-angle lens is not sufficiently rapid. A medium angle lens is best, and about $7\frac{1}{2}$ in. focus. If "G. K. I." will look up my article in "Year Book" it may help him, or write me direct, per Editors.—**C. HETHON LEWIS.**

3357. Exhibition Matters.—Yes. Cut out card mounts any tint, according to taste. Plain oak frame. Half-plate and under four can go in one frame, above that it is best to have a frame for each. Write to the different secretaries for conditions and other information.—**EDYLLION.**

3360. Covering Power of Lens.—From what you say I should imagine your lens was only a half-plate, and not a whole-plate one.—**EDYLLION.**

3360. Covering Power of Lens.—The farther you remove the camera from the sitter the nearer the lens will have to be to the ground-glass, but the farther you go from your sitter the smaller the image will appear. You must reduce distance between lens and ground-glass till the subject is quite sharp. Your camera is all right if the front will push back towards the ground-glass. The only method of obtaining a finished photograph at once is to enlarge direct on bromide paper.—**EDYLLION.**

3361. Silver-Ring Rectilinear Lens.—A first class lens is wanted. "Advanced" says. The one mentioned is doubtless good, but I can personally recommend Swift's or Taylor's, as I have both these makes of lenses.—**HETHON LEWIS.**

3368. Halation.—The simplest way to avoid halation is to back your plate with ordinary black American cloth, smeared with glycerine to make it adhere. Before development it can be easily stripped off, and the glass wiped with a clean cloth. I saw this recommended in a former number of the **AMATEUR PHOTOGRAPHER**, and found it answer perfectly.—**S. JAMES.**

3368. Halation.—"Mit Eur" should get soem "Halatine" sold by Mr. H. Pickering, chemist, Highcross Street, Leicester, which effectually prevents halation. It simply requires dabbing on back of plates before insertion in slides. It is sold in bottles about 1s. each, 1b. 1s. 6d.—**WALTER B. WOODLAND.**

3368. Halation.—"A. Mat Eur" can entirely prevent halation by coating the backs of his Ilford plates with the following preparation:—Obtain a small quantity, say three-pennyworth, of burnt sienna pigment, ground in water, from a colourman, and put in a small red pan such as painters use; add to it about a teaspoonful of glycerine and a little strong gum. Mix thoroughly with enough methylated spirit to bring it to the consistency of cream. With a small flat camel-hair brush, say an inch wide, coat the backs of the plates, and as each is finished, stand it in a plate rack, which should stand in a dark cupboard or box in the dark-room all night. Don't forget that the plates are still sensitive, and in the morning put them into your dark slides. Two days ago I photographed the interior of a church, pointing my camera directly at a large window, and using an Ilford plate backed as above. The negative shows no trace of halation whatever.

Of course, the red paint must be removed before the plates are developed, but a damp cloth or sponge will readily do this. To use an Ilford plate without backing for such a purpose as an interior, would be simply to waste plate, time, and temper.—**E. HADLOW SUGGATE.**

3368. Halation.—The following composition, if spread upon brown paper (which has been damped) and thus applied to the back of the plate, will answer the purpose of preventing halation:—Powdered burnt sienna 1 oz., gum 1 oz., glycerine $\frac{1}{2}$ oz., water 10 ozs. Another method of backing which is more convenient than the above is to rub a little glycerine over a piece of black enamel paper or red paper, similar to that in which plates are wrapped, and then pressing it firmly to the back of the plate. All backing must be removed before development. Halation is less likely to appear with quick development and with a thickly-coated plate or one containing iodide.—**SICILIAN.**

3373. Mounting Prints.—See letter in this number.—**HETHON LEWIS.**

3374. Platinum v. Gold.—Although platinum tetrachloride is less than half the price of gold chloride, it is not so generally used, for one atom takes the place of three atoms of silver subchloride, whilst two atoms of gold take the place of three; so that there is not so great a loss of tone with gold as with platinum. A print that is to be toned with platinum must, therefore, be printed very much more deeply than one to be toned with gold. No doubt platinum will come into use more extensively now in the form of platinum chloride, thanks to the recent investigations of Mr. Lyonel Clark.—**SICILIAN.**

3377. Detective Cameras.—If "Detector" really wants to obtain a good detective camera, and does not mind going to the expense of £10 or thereabouts, he might get "The New Instantaneous Hand-camera," which holds a dozen quarter-plates, which can be exposed without being touched by the hand. There is an indicator to show how many plates he has exposed. He can get the camera and everything for nine guineas ebouise, or, if he prefers it in morocco, for ten guineas.—**JOHN H. MONTAGU.**

3377. Detective Cameras.—Rough's Eureka, quarter-plate size. It is about perfect. I have used it on figure, marine, landscape, and architectural subjects, and had the opinion of very good professional photographers on the results technically. They all say the work is excellent.—**NOR-EMAN.**

3380. Transparencies, Painting of.—Photographic transparencies can be coloured in a variety of ways, either by oil or water-colours. The following are transparent oil colours.—Prussian blue, indigo, Antwerp blue, French ultramarine, Italian pink, yellow lake, burnt sienna, crimson lake, ivory black. Robinson's medium used with turpentine is good for mixing the colours, which should be applied with water-colour sables. The most difficult part will be found to be in getting the colours, over open spaces, to lie evenly and not to reveal the marks of the brush. Here a dabber must be used, consisting of a short thin stick having a piece of kid lined with cotton wool tied tightly to one end; the colour can be spread evenly with this by giving a succession of taps.—**SICILIAN.**

3381. Camera on Bicycle.—I carried my quarter-plate Instantograph last summer on a Humber safety, taking the camera, slides, etc., in a case on an ordinary iron carrier affixed to the front of the machine. The tripod when folded up just fitted into the opposite corners of the diamond frame. I would not advise "C. T. C." to invest in a cycle clip. I should like to know where the advantage of its use lies when attached to a safety bicycle. A tripod makes you perfectly independent and free to choose your point of view.—**SICILIAN.**

3381. Camera on Bicycle.—"C. T. C." will find Matthews' carrier very suitable for his purpose. It can be obtained at any respectable cycle dealer's. Any short folding tripod will do strapped to the handle bar or backbone. I should think a cycle clip would not answer, as you would always have to lean the machine against something.—**F. JACKSON.**

EDITORIAL.

NOTE.—Anyone requiring an opinion upon photographic apparatuses, plates, etc., must give a number or initial for identification, as in no case will makers' names be inserted in this column.—**EDS. AM. PHOT.**

C. NOWELL-USTICK.—We do not think the camera you name is at present on the market. No. 1 is a very reliable lens. No. 2 is well spoken of, and some experts hold very high opinions of the quality of the glass.

D. FORBES (Smyrna).—Accept our congratulations upon the excellence of your work. We are pleased with the colour you have secured in the prints by means of Dr. Kibbler's process. We shall take an early opportunity of sending them to him for inspection, and we are sure he will be pleased that he has followers working at such a distance from England. From an art point, your photographs have considerable merit, and when we consider the disadvantages you have laboured under,

we are quite surprised at the result before us. We should say you err slightly by over-exposure. The grouping in No. 1 is capital. If more detail had been brought out in No. 6 it would have been a very pleasing panorama. Nos. 2, 3, and 4 show again your ability in grouping. We shall be pleased to see more of your work.

H. R. HIDE.—We know few professional photographers, and cannot therefore help you. Can only advise you to advertise in one of the trade journals.

C. MILLARD (Malta).—A book of "entry forms" for the monthly competitions will shortly be issued. The particulars of these are now advertised up to September. The Newspaper Act will not permit of our inserting a form in the paper loose to be filled up. We hope, therefore, we have now overcome the difficulty in a great measure. The two photographs you send have but little merit, and the enlargements are an exceedingly bad colour; we shall be pleased to give you some advice if you will send us more particulars than are contained in your letter. If you have difficulty in securing the AMATEUR PHOTOGRAPHER through your bookseller, why not subscribe direct for it from the publishers?

ARGOSY.—Certainly you must not make a lantern slide of a photograph that is copyright. The copyright in a book is in force for forty years. We shall do our best to sustain our present position in photographic literature. Our publishers shall procure you a copy of "Photographic Answers," as requested. Sorry your letter has not received earlier attention.

J. W. DARLING.—We are glad to have your experiences in the making of silhouettes by the aid of photography, but do not think that the discovery (?) any way advances photography. Whatever value there attaches to a silhouette is due to the cleverness of the artist who cuts out in profile a portrait, but we much prefer legitimate photography to photography which only makes a poor copy of the work of a clever artist. In your case the profiles are very clearly defined, and no doubt are more truthful than the work of the "scissors artist."

W. E.—We should give the preference to A and B on your list.

W. J. W.—The maker carries on business at Bull Street, Birmingham.

F. J. T.—The lenses you forward were not made for stereoscopic work, but are French portrait lenses. Their full value, taking into consideration that one is much damaged, is about ten shillings the two. The blemish will not affect the performance of the lens to any noticeable degree—but reduces the commercial value of the article to a minimum. The lenses are hardly worth furnishing with stops.

J. B.—Your apparatus is quite correct in design. Limelight is quicker than paraffin, and it has some other advantages for enlarging purposes. The ground glass is unnecessary. Do not use a wide angle lens if you can help it.

J. B., Ayr.—It is quite impossible to say why you fail in your photography, but if you care to send up a negative, we will endeavour to find out.

W. H.—Enlargements are not indolent.

W. J. L.—We cannot see what you mean. The colour of the dog does not seem to us to be in any way different to the rest of the picture.

W. J. B.—Your church is not taken from the best point of view, and the straight foreground is very inartistic. The group—which appears to be a study for Moses in the bullrushes—is not a happy production, although it certainly is original. The idea of the young lady clasping the older one to prevent her committing suicide in the pond, is perhaps too gloomy an incident to introduce in a family group. The open view is better, but it lacks brightness. Bath is, we think, the nearest.

MRS. A.—Thank you for the pictures. Your work is good and clean, and the glaze all that could be desired.

G. F. D.—You should address your enquiry to some dealer in chemicals—say Mawson and Swan.

PLATINO.—The instructions issued by the Company are sufficient for most people; but you will find a good deal of information in the competitive papers which we published on the subject a few months back. The time of floating the paper is simply a matter of experience. The cameras named are of about equal merit. Choose for yourself.

ROBIN.—The lens is a good one, and you are safe in purchasing it; and we consider that the camera represents good value for the price asked for it.

H. H. S.—It is impossible for us to recommend one particular camera out of four of equal merit. This is surely a case in which a purchaser should exercise his own judgment.

L. C.—We reply to your enquiry by post.

A. W. P.—Your best plan will be to paint out the background round the head with gamboge (water colour), using with the colour a little oxgall. This should be done on the film side, and will be found quite effective if the colour is applied properly.

JIM CROW.—Certainly we will help you in the way you suggest, as soon as the society has been started.

JOHN H. S. RUSSELL.—We cannot at present fix the date, but hope to in a week or so.

UNDECIDED.—If price is no object, certainly get No. 2 on your list, or the corresponding lens of a maker of equal fame whom you do not mention. It is worth remembering that a first-rate name on a

lens stamps it with a value which renders it saleable at a high price at any time.

R. L. KINGSFORD.—Only three papers were contributed; none of them were considered worthy of the prize offered. The prize design has long since been decided upon and the prize forwarded. Your MS. is returned to-day.

J. R. D.—Your prints have been destroyed. Kindly send duplicates, and we will endeavour to give you further advice. Will keep your letter before us.

H. H.—You must not enter a print in Monthly Competition and then send same to our Prize Tour Competition. You can have the prints back when you please. They are not going the round.

T. S. MAYNE.—Will write the competitors, but fear they will not consent. Many thanks for your kind letter. Shall hope to pay you a visit some time this next summer.

J. H. MONTAGUE.—Your letter is hardly suitable for our columns, but the idea of a teaching club has often presented itself to us, and we will draw attention to your suggestion in "Our Views."

A. JOBLING.—You must write to the Sale and Exchange Department.

Monthly Competition.

NO. 8.—ENLARGEMENTS.

In the above Competition we have received competitive prints from the following gentlemen:—

1. An Industrious Fisherman ... J. J. Thornton
2. Dolly and I ... John Fraser
3. Waddesdon Manor House ... Wm. Rice
4. The Arundel Road to Horsham ... Edward Hawkins
5. A Rustic Bit ... B. Bullen
6. Portrait of a Little Girl ... T. W. Muncey
7. Within Eight Miles of London ... W. R. Cullley
8. Study of Italian Children ... Alfred Stieglitz
9. A Storm at Jersey ... A. R. Dresser
10. Toby ... J. O. Grant
11. On the Derwent, Ashopton, Derby ... J. J. Rix, M.A.
12. Avenue of Trees in Cobham Woods, Kent ... J. C. Johnson
13. My Study ... James Epps, jun.
14. Lumley Mill ... C. B. Douard
15. The Old Mill, Alderley ... P. Bersi
16. H.M.S. Sultan, After being Raised ... Clement Millard
17. What Love hangs by ... S. Francis Clarke, L.D.S.
18. Flowers ... George Sherriff
19. Warkworth Castle ... W. Hall
20. Winter Farming ... M. Whiteside, M.A.
21. Portrait of a Child ... H. J. Turney
22. Tilbury Fort, Essex ... E. P. Overton
23. The Village Forge ... Charles Heady
24. Laxey Wheel, Isle of Wight ... James Shaw
25. Trentham Hall ... E. B. Wain
26. The College, Cobham, Kent ... A. L. Spiller
27. Youth ... T. L. Buch
28. On the Conway ... W. J. Farthing
29. How ill poor Mother Looks ... G. Herklots Vos, M. 3.
30. Off to the Fishing Grounds ... H. Dudley Arnott
31. On the Roxy Road ... Ernest Straker
32. Lady and Child ... Fred. Mackenzie
33. Phoenix ... J. L. Mackrell
34. Furness Abbey ... Lumley Cator

Sale and Exchange.

RULES.—Four penny stamps for twelve words or less, and one for every additional three words, must be enclosed with each advertisement, together with the name and address of the sender, which must be paid for, and sent to Hazell, Watson, and Viney, Ltd., 1, Creed Lane, Ludgate Hill. A single figure, or group of figures undivided by letter, space, stop,

DEPOSITS.

Deposits for goods to be forwarded on approval may be made with our Publishers, who will hold the amounts deposited until they are satisfied that the transaction has been executed to the satisfaction of both parties. Cheques and Post Office Orders should be made payable to Hazell, Watson, and Viney, Ltd. A nominal charge 1s. is made of whether a sale is effected or not.

N.B.—Trade Advertisements cannot, under any circumstances, be inserted in this column. Such advertisements can be inserted elsewhere at the Trade Scale, which may be obtained on application to Parry and Crawford, 1, Creed Lane, Ludgate Hill, London, E.C.

"Amateur Photographer."—AMATEUR PHOTOGRAPHER, vols. v., vi., vii., each bound; also vols.

viii., ix, unbound; the lot for 11s. 6d.—A. G. W., care of Baird, 15, Lothian Street, Edinburgh.

AMATEUR PHOTOGRAPHER, from August, 1888, to date; what offers in cash?—S., 41, Waldemar Avenue, Fulham, S.W.

Burnisher.—Capital burnisher, half-plate, 9s.; Apts view-finder, 2s. 3d.; six each quarter and half printing frames, with glass and pads, 6s. 6d. the lot; ruby lamp, light-tight plate box (quarter), Vever's plate-lifter and box lantern strips, 2s. 6d. the lot.—A. Simpson, 49, Grasmere Road, Lancaster.

Cameras.—Half-plate 84s. Instanto set (Underwood's 1888), new; bargain, 60s.—2, Hawthorn Villas, Slad Road, Stroud, Glos.

Lancaster's half-plate Instantograph 1889, complete, scarcely used; offers, cash only.—Taylor, Tannery, Marple.

Latest pattern half-plate mahogany camera, double extension, three double slides, new; 70s.—Sunderland, Smethwick.

Lancaster's quarter Instantograph, with many accessories.—For particulars, apply, C., 41, St. Stephen's Avenue, Shepherd's Bush, W.

Lancaster's quarter-plate camera, with four mahogany double slides, patent changing bag for half or quarter plate, with three-fold stand, cheap; £2 10s.—Thos. Hy. Hoggett, Castle House, Stockton-on-Tees.

Stirn's secret camera, smaller size; exchange.—Hardwick, Sadler Street, Wells, Somerset.

Lamp.—Dark-room oil lamp, with golden fabric and opal glass; cost 18s.; will take 10s.—Tiro, Stanton House, Highworth.

Lantern Slides.—Lantern slide apparatus, for making slides from negative; cost 15s. 6d.; price 7s. 6d.—Bentley, Low Baildon, near Leeds.

Dozen lantern transparencies of Cornish and other views, new; what offers in full-sized comic slides?—B., 4, Heanton Villas, Redruth.

Lenses.—For sale (property of gentleman lately deceased), one Lancaster's Rectigraph lens, new; cost 30s.—Apply, N., Mark's Library, Northampton. Excellent carte lens, by Squire, perfect definition, with Waterhouse diaphragms; 25s.—Arthur Norman, St. Osyth, Colchester.

Ross' 10 by 8 R.S. Caldwell's shutter for same, extra tube, with Iris diaphragm; cost £12 last June; take £8 or offers; approval; deposit.—H. Macdonnell, Cleveland Mills, Stockton-on-Tees.

5 by 4 set, every requisite for taking and printing photographs; lens worth money asked; 57s. 6d.; bargain.—L., Ferry House, Pulborough.

Optimus quarter portrait and enlarging lens, with rack and Waterhouse diaphragms, equal to new, gives brilliant definition; 15s.; what offers? No cards.—K., 38, Waldemar Avenue, Fulham, S.W.

Lens and Stop.—A good half-plate R.R. lens and stops; 30s.; open to offer.—A. A. Kilby, Mayfield, Bishopwood Road, Highgate, London, N.

Microscope.—Microscope in case, hardly used, and mahogany box, 8½ by 4½ by 4, with two trays, containing 24 slides, etc.; accept 50s., or exchange quarter-plate Instantograph and lens (1889 pattern) and three double backs.—E. J. Reynolds, Ley Farm, Ilford.

Sets.—Bargain; quarter-plate Instantograph camera, two double slides, one cycle clip, and one landscape lens, with rackwork mount, cost 47s. 6d.; take 20s. cash.—J. Chanot, 157, Wardour Street, London, W.

Quarter-plate special patent camera (Lancaster's), four slides, new, Darlot's No. 1 Hemispherique Rapide and quarter single view lens; price £4 4s. Whole-plate single view lens; 15s.—W. Hargreaves, 83, St. James' Street, Burnley.

Half-plate square bellows camera, lens, three slides double, reversible back; cash £2.—Leek, 60, Albion Street, Castleford.

Quarter-plate camera, long extension R.R. lens and stops, shutter, three double dark slides, folding tripod, in excellent condition; on approval, deposit; £4 15s.—Doublet's, 11, Moorgate Street, London, E.C.

7½ by 5 double extension leather bellows camera (by Hare, London), three double backs, with carriers for smaller plates, in good condition; £7. Suter's lens, aplanatic, series C; £2 2s. Folding tripod in case; 12s. 6d. Negative boxes, printing frames, and dishes for same.—Prue, Abington Street, Northampton.

Whole-plate outfit, Dales' best make, camera, multiplex back, double slides, tripod, etc., cost over £13 10s.; take £7 5s.; bargain.—J. W. Thorp, Knutsford, Cheshire.

Lancaster's 1889 quarter-plate Instantograph, lens, shutter, double slide, stand, as new; 34s.—E., 50, Milner Square, London, N.

Camera, half-plate, 1889 Instantograph, by Lancaster, in very finest order, and guaranteed genuine in every part, fitted with reversing back, leather bellows and double extension, Instantograph lens and shutter, Iris diaphragms, double dark slide, quarter-plate carrier, and double folding mahogany tripod, latest improvements; approval; 74s.—Cousins, 5, Stanley Villa, Bruce Grove, Tottenham.

Whole-plate camera and one double slide, new, cost £5, bargain 63s.; whole-plate lens, 15s.; and whole-plate tripod, 11s. 6d.—Slade, Slad Road, Stroud.

Shutter, lens, etc.—For sale, Right-about-Turn

shutter, fit hood up to 2½ ins., no tubing, 13s. 6d.; good c.d.v. portrait lens, with stops, 11s. 6d. Wanted, Querry's single-flap shutter, to fit hood 3½ ins.—Photo, Woolhampton, Reading.

Sundries.—Handsome American organ, 16 stops, 9 sets, 8 ft. 6 ins. high, 29 pipes, embellished gold and colour; £36; photograph three stamps.—67, Forest Road, Dalston.

Splendid trombone, 20s.; exchanges invited; letters only.—George Howard, 55, Percival Street, Clerkenwell.

Lancaster's shutter, film-holders, plate-holder, old stereo camera, printing frames, etc.; 5s.—Brown, 63, Stanbury Road, Peckham.

Tripod.—Whole-plate tripod stand, very light and rigid; also violin, splendid tone, cheap.—G. Kynaston, Downham Arms, Islington, London.

WANTED.

Cameras.—Quarter-plate Instantograph and time shutter, 1½ in. hood.—Ploss, 309, Liverpool Road.

Model paddle engine, brass boiler; 36s.; want quarter-plate camera.—Burt, 67, Forest Road, Dalston.

Camera, etc.—Quarter Optimus wide-angle camera or similar pattern, with four or five double backs.—Price to Lyddon, 22, Alexandra Park, Redland, Bristol.

Camera Case.—Half-plate leather camera case, with divisions and shoulder straps; about 13s.—Send particulars to F. 32, Binfeld Road, Clapham.

Dark-Slide.—Dark-slide, for quarter-plate Instantograph; exchange AMATEUR PHOTOGRAPHER, April, 1889, to date.—No. 10, AMATEUR PHOTOGRAPHER offices.

Lenses.—Half-plate rectilinear lens, Taylor and Hobson's, or Wray's, with or without Iris diaphragms and shutter; deposit; approval.—W. Cullen, 16, Arlington Street, Glasgow.

Pacea 5 by 4 true-view lens. — Langlands, Pleasance, Dundee.

Photographic Apparatus.—Photographic apparatus, in exchange for amateurs' American lathe.—G. Savage, Folkestone.

Sets.—Lancaster's half-plate Instantograph, with lens, tripod, and dark slide; exchange a quarter-plate set, quite new, and "A Manual of Palaeontology," by H. A. Nicholson, F.R.S.—Frank Duncan, 6, Grosvenor Road, Gunnersbury, Middlesex.

Good half-plate camera, lens, dark slides, etc., complete.—Spencer, Surveyor, Crawshawbooth, near Manchester.

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NOTICES TO SUBSCRIBERS.

Subscriptions must be prepaid.

UNITED KINGDOM	Six Months, 5s. 6d.	Twelve Months, 10s. 10d.
POSTAL UNION	6s. 6d.	13s. 6d.
INDIA, CHINA, ETC.	7s. 9d.	15s. 3d.

NOTICES AS TO ADDRESS.

PUBLISHING DEPARTMENT.—All letters containing Subscriptions, Orders, Remittances, SALE AND EXCHANGE Advertisements, or other business matters for the *Amateur Photographer* are to be addressed to the Publishers, HAZELL, WATSON, AND VINEY, LD., 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

NOTE.—SALE AND EXCHANGE Advertisements, at the charge of Three Words for One Penny, can be received as late as WEDNESDAY MORNING.

ADVERTISEMENT DEPARTMENT.—All communications respecting TRADE Advertisements in the *Amateur Photographer* are to be addressed to PARRY AND CRAWFORD, 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

NOTE.—Trade Advertisements are received up to Tuesday morning.

EDITORIAL DEPARTMENT.—All Literary Contributions, Queries and Answers, Photographs for Competition or Criticism, Books or Apparatus for Notice or Review are to be addressed to the Editors, *Amateur Photographer*, 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

NOTE.—To ensure insertion all Communications should reach the Editors on Tuesday.

THE FORTH BRIDGE.

In view of the interest taken by all engineers, students, and others in the Forth Bridge as a triumph of engineering skill, the proprietors of the *AMATEUR PHOTOGRAPHER* have pleasure in offering the following Prizes for the Best and Second Best Set of Four Photographs:—

First Prize	... Silver Medal and £1 1s. 6d.
Second Prize	... Bronze Medal and 10s. 6d.

Photographs must be sent in on or before **Monday, the 10th of March**. This date will permit of photographs of the Opening Ceremony, which is to be performed by H.R.H. the Prince of Wales on the 4th of March.

The proprietors will require the use of the negatives of the prize photographs. If any competitors are willing to leave their prints in the hands of the Editors of the *AMATEUR PHOTOGRAPHER*, they will have pleasure in circulating them amongst the photographic societies.

All Competitions to be addressed:—"Forth Bridge Competition." The Editors, *Amateur Photographer*, 1, Creed Lane, Ludgate Hill, London, E.C.

"AMATEUR PHOTOGRAPHER" MONTHLY COMPETITIVE PAPERS, 1890.

THE following Prizes are offered for competition every month:—

Three Prizes of £1 1 0 each.

Three Prizes of 0 10 6 each.

And Three Certificates.

The Papers must not exceed 1,000 words; and those which are awarded Prizes will be published in the *AMATEUR PHOTOGRAPHER*; others will be selected, and will be arranged for publication in the

"AMATEUR PHOTOGRAPHER'S ANNUAL."

Contributions are to be upon the subjects as list given below; and in order to make the matter more interesting, it is requested that each competitor shall give his *personal experiences*. It is intended that each subject shall be written up by a specialist for the ANNUAL, and the latest information given. All MSS. must be received not later than the

28TH OF EACH MONTH.

28th	Subjects.
February	Apparatus.
March	Optics.
April	Action of Light.
May	Exposure.
June	Plates and Films: Their Development and After Treatment.
July	Printing, Toning, Mounting, and Finishing.
August	Artistic Effect and Composition.
September	Outdoor Instantaneous and General Photography.

All MSS. to be addressed to the Editors, "*Amateur Photographer*," 1, Creed Lane, Ludgate Hill, London E.C.

"AMATEUR PHOTOGRAPHER" MONTHLY PHOTOGRAPHIC COMPETITIONS.

THE Proprietors of the *AMATEUR PHOTOGRAPHER* will offer, Monthly, two prizes, consisting of a

SILVER AND A BRONZE MEDAL (WITH RIBBON AND CLASP)

for the best and second-best photographs sent in to each of the Monthly Competitions. The subject of the Competitions will be as follows:—

LANDSCAPE OR SEASCAPE	... Feb. 14	... June 14.
LANDSCAPE WITH FIGURE	... Mar. 14	... July 14.
GENRE OR FIGURE STUDY	... April 14	... Aug. 14.
INSTANTANEOUS PHOTOGRAPHS, ANIMALS, ETC.	... May 14	... Sept. 14.

Only one print is to be sent in; the negative of the prize pictures shall be at the service of the Proprietors, and all the prints sent in shall become the property of the Proprietors.

All photographs for any of the above competitions must be received by the

FOURTEENTH DAY OF THE FOLLOWING MONTH,

and as received will be acknowledged in the columns of the *AMATEUR PHOTOGRAPHER*.

Prints for next competition, "Landscape or Seascape," must be sent in on or before the 14th day of February, endorsed: "Monthly Competition," the Editors, "*Amateur Photographer*," 1, Creed Lane, Ludgate Hill, London, E.C.

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The AMATEUR PHOTOGRAPHER

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FRIDAY, JANUARY 31, 1890.

[PRICE TWOPENCE.]

• OUR • VIEWS. •

"To hold as 'twere the mirror up to nature."—Shakespeare

WE are pleased to note that mainly through the exertions of Mr. H. P. Tattersall, a member of the Camera Club, a photographic society has been formed at Blackburn. Lancashire literally teems with workers in photography, and already some thirty or more gentlemen have handed in their applications for membership. A short account will be found in another column.

* * * *

MR. MACLEAN's effort, noticed in last week's AMATEUR PHOTOGRAPHER, to establish a Photographic Society at Croydon has, we understand, received considerable support, notwithstanding the fact that a protest has been issued by Mr. Charles Hussey, the Secretary of the Photographic Section of the Croydon Microscopical and Natural History Society, and which is published in our correspondence columns. We do not know how many members there are of the Photographic Section, but we do know that it is ridiculous to make the statement that that section is representative of the workers in photography resident in and around the borough of Croydon. There should be no difficulty in securing at least 100 amateur photographers to join the Croydon Camera Club, and an exhibition started under the auspices of such a club would, we feel sure, be a pronounced success. Some of the most charming landscape scenery in England is to be found within walking distance of Croydon, and there is material enough to satisfy the cravings of the most persevering and critical photographer that has ever used a camera. We therefore trust that Mr. Maclean will relax none of his efforts to establish a club which shall be truly and solely representative of photography. He has our hearty good wishes, and may accept our assurances that if in any way we can be of service to him he has but to command us.

* * * *

THE Dukinfield Photographic Society is fast becoming a representative society. We are pleased to note that it is intended to hold an exhibition of photographs by members and friends on the 20th, 21st, and 22nd of February. On the third day there will be a conversazione and lantern exhibition in the evening. The society numbers some

seventy or more members, the bulk of whom are active workers in photography.

* * * *

MR. PAUL LANGE, President of the Liverpool Amateur Photographic Association, delivered an excellent lecture upon "Norway" on the evening of the 24th at Birkenhead. The lecture was illustrated throughout by lantern slides made from Mr. Lange's own negatives, taken whilst on an extended tour through the "Land of the Midnight Sun" last year. An account of the lecture will be found in our correspondence columns, and will be of interest to many of our readers who contemplate visiting Norway next season.

* * * *

THE movement now on foot in certain quarters to unite as exhibitors the amateur and professional we deprecate most strongly. The amateur photographer has always been the pioneer in matters photographic, and advances the art and science on every hand. We would, therefore, ask why should he be compelled, for the sake of that section of photographers who wish to "run with the hare and hunt with the hounds," and who are neither "fish, flesh, fowl, or good red herrin'," to compete with traders, whose work, speaking from the experience of a constant visitor at exhibitions for the last five years, shows generally no advance either in art or in technique? Who are this precious body of professional photographers with whom the large army of amateur photographers all over the world are asked to throw in their lot? Is it not a fact that the professional photographers exhibiting at the photographic exhibitions which are promoted by amateurs whose exertions entirely make them a success, may be counted on the ten fingers? We say, stop these professional men from exhibiting, who practically show no advance in their work, but to whom, owing to the manner in which conditions are drawn up, judges are compelled to award expensive medals, which are paid for, not by professional photographers, but from contributions of the amateurs. Time after time are medals awarded to professionals for photographs not one whit better than work by the same men that have been exhibited any time during the last five years. At best, they are not photo-

graphs, but are, too often, badly executed paintings, false to nature and libels upon art.

By wiping such things for ever off the walls of photographic exhibitions the expense of supplying so many medals may be reduced, and the exhibitions purged of work that does not advance photography or gratify the public.

* * * *

WE are pleased to be able to announce that the competitors in the AMATEUR PHOTOGRAPHER "Stereoscopic Slide Competition" have kindly consented to allow us to loan the slides to photographic societies for inspection. A packing fee of *one shilling* will be charged, and Secretaries are requested to make early application. They will be at their disposal *after* the 14th of February. The prints will be on exhibit at our offices at 1, Creed Lane, from 10 to 4 on Thursday and Friday, the 6th and 7th February, and on Saturday the 8th, from 10 till 2 o'clock. We shall probably arrange for them also to be on exhibit on Wednesday evening, the 12th prox., from 7 to 10 o'clock, but will announce definitely next week.

* * * *

It gives us pleasure to announce that the following awards have been made for the "Enlargements," contributed to the AMATEUR PHOTOGRAPHER Monthly Competition No. 8—

Silver Medal—A. R. DRESSER,
for his excellent enlargement from hand-camera negative of "A Storm at Jersey."

Silver Medal—GEO. SHERRIFF,
for a very beautiful print from an enlarged negative of "A Vase of Flowers." The original picture was taken on an Isochromatic plate, and the gradation of colour is well marked, and becomes quite apparent in the print taken from the enlarged negative.

Bronze Medal—S. FRANCIS CLARKE, L.D.S.
This prize is awarded for a very charming study, "What Love hangs by."

Bronze Medal—J. L. MACKRELL.
Another study at the cottage door; an old woman and young girl being well posed and lighted. The enlargement is very carefully executed, and the picture well thought out.

The "Enlargements" have been on view for the past week, and have given much pleasure to a large number of callers. They will now "go on tour." Applications for them should be made *at once*, in order to save the cost of carriage.

* * * *

In our correspondence columns will be found a letter from the Hon. Secretary of the Camera Club containing the preliminary announcement of the arrangements for the Conference to be held in March next.

* * * *

THE Paisley Photographic Society will hold an exhibition of photographs in the picture gallery of the Free Library and Museum, opening on the 11th of February and continuing for one month. We are glad to notice that the Society will receive photographs "not for competition." The exhibition is for the advancement of members' work, and as a consequence is not open to general exhibitors.

THE promoters of the Crystal Palace Photographic Exhibition are most enterprising, and they are ably aided by the Company and their indefatigable Manager, Capt. Henshaw Russell. We have just received the following communication:—

"With the intention of securing for this Exhibition a thoroughly national character, the Directors have decided to offer a valuable Challenge Cup, to be retained for the current year by that photographic club or society which, in the opinion of the judges, sends the best collective exhibit of not less than fifty pictures. Appended you will find the conditions of this National Club Challenge Competition, and we shall be much obliged if you will kindly bring the matter before the members of your society without delay."

The rules are simple, and we should say that the liberal act of the Company will be appreciated. We shall be curious to see how many societies enter for the challenge cup. The announcement is made rather late. The ultimate destination of the cup is not announced. We would suggest that it should become the property of any society who may be awarded it three years in succession.

The Exhibition proper is progressing admirably, and we understand that dealers and manufacturers, especially in the provinces, will be largely represented.

* * * *

WE are pleased to note that the New York Society is making good progress, and that the papers read before it are of a high-class character. It is only twelve months old, but has already a good membership, with every promise of still further increasing its numbers. We refer our readers to another column for a report of the first annual meeting of the members.

* * * *

THE Liverpool Association still grows, and the members are doing most excellent work. Rumour says that they will promote an Exhibition next year (1891). Should this be done, we prophesy that it will surpass any provincial exhibition that has been held, and workers in photography, amateur or professional, will do well to get together some of their best work for exhibition. Liverpool did much at their former exhibition to revise and purify "rules and conditions," and we hope their Exhibition Committee for 1891, when formed, will take the whole subject of exhibitions in hand. Above all, we hope they will have no trade medals or prizes, and, as far as we are concerned, no medals outside those struck from the Association's own dies; that "sets series" will be disregarded, that the prizes in every case shall be awarded to one frame or one photograph; that no series, if they are admitted, should consist of photographs not connected either by incident or locality, and that in such a case it should be imperative that the series be in one frame, and exhibited as a whole.

THE Liverpool Amateur Photographic Association, in promoting an exhibition on the scale of that held two years ago, may well make the conditions stringent, and so give us an ideal exhibition. We hope also that they will have an historical section, and feel assured that those who have examples either of apparatus or actual photography, the work of "the fathers" will gladly entrust them to the Association. No association in England has more capable men on their Council, or whose muster-roll contains more able and talented workers in photography. We hope, therefore, for the good of photography in

general, and the advancement of the amateur photographer in particular, the Liverpool Association will take early steps to put the scheme of their 1891 Exhibition before the public.

* * * *

A NEW DISCOVERY (?)

WE have more than once had occasion to remark upon the revival of old processes, the unearthing of forgotten methods of working, and the re-introduction of obsolete apparatus under new names. It is natural that such a thing should often occur in an art like photography, for new workers are constantly coming upon the scene who are so busy in mastering the processes of to-day that they have little opportunity of looking back in order to see what has been done in the past. Hence many an ingenious one is led to devise some modification in his every-day work, and as he has a ready means of publishing his discovery or invention through the medium of the society of which he is a member, the improvement is soon well advertised by means of the journals, and the newly-fledged inventor holds his head somewhat higher than he did before. But the older members of our fraternity, some of whom must have minds fashioned on the encyclopædia principle, or heads divided up into innumerable pigeon holes in which they sort all manner of useful facts, smile to themselves when they remember that many years ago the same invention was brought before one of the two or three photographic societies then existing, and after being discussed in the usual manner, found its level and sank into oblivion.

It is no fault of the recent amateur that in his zeal he should fancy that he has discovered something new, and should seek to let others have the benefit of it, and we should be the last to check such praiseworthy conduct. Such a check, indeed, would have a disastrous effect in perhaps deterring some modest worker from publishing a really valuable observation in case it should be afterwards found that he had been forestalled by someone else. Still, we think that the photographic press should, when a claim is made to something new, which they know to be very old, point out the real facts. Instead of this, it sometimes happens that through ignorance or design, the matter in question is made the subject of paragraphs and articles, and the name of the reintroducer of the matter is regarded as the author of its being.

A case in point has recently occurred in New York, where Dr. J. J. Higgins is credited with having introduced a new system by which gelatine plates may be developed under a bright and naked gaslight, or even by daylight. This worthy doctor has certainly come as a boon to the American photographic press, which has "boomed" his discovery in that thorough manner in which the transatlantic journalist excels. He is described as a great reformer who has arisen to save his fellow-photographers from losing their eyesight by working in a dull light. The red lamp of the dark-room is henceforward to be abolished, except for the mere changing of plates. "Exposed plates can be handled almost recklessly, and the development of them made a luxury instead of the great trial it is to those who must develop their plates after the hard work of the day." These words are quoted from a leading photographic publication.

But what is this wonderful discovery which is to make such a revolution in the practice of our art? Is the white

flame of the gaslight to be made non-actinic by the magic aid of chemistry, and yet retain its whiteness, or are the plates to be treated in some manner which will render them insensible to its action? The latter is the course pursued by Dr. J. J. Higgins. To make a long story short, he simply places the exposed plate in a sufficiently deep dish containing the old ferrous-oxalate developer, which is a ruby-red liquid, and he then turns up the gas over the dish and watches the development at leisure.

We suppose that Dr. J. J. Higgins, and the gentlemen of the Press who have so boomed his discovery would be rather surprised to hear that about twelve years ago a little book was written by Mr. John Burgess, one of the first workers of gelatine emulsion processes, in which he described "a new method of development." It was precisely the same as that which has now been republished with such a fanfare in New York, only it happened to be original, and moreover it had some novel points about it which Dr. Higgins has altogether missed.

Mr. Burgess's method was to fill a deep dish with the ruddy iron developer, and upon it to pour an ounce or two of paraffin oil. The exposed plate was first soaked in water to render it repellent of the oil, just as a lithographer will sponge over his stone to attain the same end, and was then placed in the dish and taken out into the light. The gradual development of the image could then be watched in comfort, and the plate was afterwards washed and fixed in the usual way. The object of the paraffin was to keep the developer from the action of the air, so that it did not rapidly deteriorate and become inert.

We all know that this method of development was allowed to become obsolete, because pyro and other agents were found to give the worker far more control over his plates. Its revival as something new is amusing to those who are not raw recruits in the photographic army, and as to the advantage of carrying the dish into white light, we may point out that by the single expedient of covering the dish with a pane of ruby glass, no matter what developer we use, it can be moved about with impunity. For our part we prefer to keep our plate during development in its proper place, the dark-room.

Letters to the Editors.

A VISIT TO NORWAY.

SIRS,—It was my privilege and pleasure to be present on the evening of Friday, 24th instant, in the Birkenhead Town Hall, at a lime-light demonstration and lecture on Norway, given by Mr. Paul Lange, the President of the Liverpool Amateur Photographic Association.

I have never been in a more comfortable or better arranged building, replete with every modern convenience. Every seat was occupied. The body of the hall was reserved mainly for those in evening dress, which, with the gallery, made up an audience of about 800. In fact, the sale of tickets was suspended on the previous day.

Now for the lecture (which was preceded by an excellent miscellaneous concert). The subject was "Norway—a Tour in June last," when the lecturer and three Liverpool companions enjoyed a charming holiday in that portion of Norway embraced in the Hardanger Fjord, Lognefjord, Nordfjord. I have made it my special business to obtain for your readers the full particulars of the plates, etc., used, viz.:

The camera, a 5 by 4 hand-camera, also available with the tripod; lens, Ross, half-plate; shutter, double curtain, the "Paul Lange" adaptation; the plates, ordinary Ilford; developer, pyro and soda. The positive transparencies, all on Mawson and Swan's (except five cloud studies, on Alpha), hydroquinone deve-

oper. Nearly all the slides were produced in the copying camera, by daylight.

The 134 views which were projected on the screen (16 ft.) embraced remarkably fine and picturesque waterfalls, glaciers, street views in Bergen, the fish market and street life, and interiors, closing with a splendid sunset view.

The lecture was most instructive, the frequent expressions of approval and delight of the audience bearing testimony to that effect. It may interest your readers to know something of the cost of such an excursion for twenty-seven days. From starting to final return home it was £24 10s., with capital hotels, good cooking, and liberal bill of fare; the route, Liverpool to Newcastle-on-Tyne, and thence by an East Coast steamer to Bergen. Mr. Lange dwelt strongly on the advantage of at once breaking off the coast line of steamers, using the smaller branch or native steamers, thus enjoying the less frequented routes and seeing more fully the interior of the country. The lantern used was Messrs. Archer and Son's biunial, placed on the gallery, 70 feet distant from the screen, double pressure. The curtain effect lent itself specially well with the cloud studies. Everything went off without a hitch on the part of the lantern.

I see you called attention in yours of the 24th, to the fact that thirty out of thirty-eight of the popular lectures to the people to be delivered in the Rotunda Hall, Liverpool, are to be given with the aid of the optical lantern. This fact is exceedingly gratifying to the photographic circle here, which you know embraces many ardent and active workers. I conclude with an extract of a hearty letter received to-day by Mr. Lange, which he sent me to read: "We must compliment you on the evenness of tone secured, and at the same time, and in a word, upon the great success attending your efforts to popularise and raise the tone (no pun intended) of lantern work throughout the provinces."

This testimony is from Messrs. G. W. Wilson and Co., Aberdeen, to my mind the producers of the finest and best lantern slides in the world.—Yours, etc.,

AN ONLOOKER.

* * * *

PHOTOGRAPHIC SOCIETY FOR CROYDON.

SIRS,—Referring to Mr. Maclean's letter in your last issue, and your remarks thereon, will you allow me to state that the photographic section of this club fulfils all the functions of a local photographic society? The section has been established for some years, and we have tried very hard to improve the status of photography in Croydon. During the past year we have had papers and demonstrations from some of our best known photographers. I may mention amongst others the names of Mr. Andrew Pringle, Mr. George Davison, and Mr. William Brooks of Reigate, one of our own members. We have had monthly lantern evenings in addition to our ordinary meeting nights, country excursions with the camera throughout the summer, and, in short, done all that could be done to help photography in this neighbourhood. While sympathising entirely with the object Mr. Maclean has in view, I cannot but think that the establishment of another photographic society in Croydon would, by dividing interest in the matter, prove a source of weakness rather than of strength to local photography.—I am, etc.,

CHARLES HUSSEY

(Hon. Sec., Croydon Micros. and Nat. Hist. Club,
January 27th, 1890. Photographic Section).

SIRS,—A very natural letter of protest from the Secretary of the Photographic Section of the local Microscopic and Natural History Society, directed against the photographic society I am trying to organise, has appeared in one of the local papers. In case the gentleman has written to you in the same strain, I send you a few lines on the subject.

The "section" above referred to is very limited in its numbers, and the work done by its members is not of a high average of excellence. It can, by no stretch of imagination, be considered to represent above a *tenth* of the Croydon workers in photography. But if it were the success which it is not, I would still advocate the formation of an independent society, one *free to work out its own destiny*, and one whose whole and undivided allegiance should be given to photography.

Besides letters of support from various quarters, one gentleman has placed at the society's disposal "a good double lantern with steel gas cylinders."

My object in writing this is to keep you informed on the subject. I hope you will be able to insert a short "par," and urge

upon procrastinators to send in their names in "double quick time." One name this week is worth ten a month hence.—I remain, yours truly,
HECTOR MACLEAN,
January 27th, 1890.

* * * *

CAMERA CLUB CONFERENCE.

SIRS,—I am requested by my Committee to ask your assistance in announcing the following outline of the Camera Club Conference for 1890.

The 1890 Conference will be held in the theatre of the Society of Arts (by kind permission of the Council) on Thursday and Friday, March 20th and 21st, under the presidency of Capt. W. de W. Abney, C.B., R.E., D.C.L., F.R.S.

On Wednesday, March 19th, at 8.30 p.m., there will be a special smoking concert at the Club-rooms, and the members' annual exhibition of pictures will be opened.

On Thursday, March 20th, at 2 p.m., the President will open the Conference and exhibition of apparatus at the Society of Arts, and papers will be read from 2 to 5.30 p.m. In the evening a lantern-slide exhibition will be given in the theatre of the Society of Arts, for which special tickets may be obtained.

On Friday, March 21st, the apparatus will be shown from 10 a.m., and at 2 p.m. the Conference will be renewed. At 7.30 the annual dinner for members and friends will take place.

A complete programme will be issued later and distributed. All photographers will be cordially invited to the Conference.—I am, yours faithfully,
GEORGE DAVISON,
January 27th, 1890. Hon. Sec.

* * * *

THREE MONTHS IN THE MEDITERRANEAN.

SIRS,—I am shortly taking a month's trip in the Mediterranean, and therefore beg you will be kind enough to advise me as to my outfit.

I shall take a Watson's Acme whole-plate camera, three slides, and Eastman's roll-holder and new films. Do you think these films are affected by sea air, supposing I keep the roll-holder always in a mackintosh case when not actually using it? What plates would you advise me to take—fast, medium, or slow? For lenses, I have a Beck 11-in. rapid rectilinear, and a 9-in. ditto; but I think I want a shorter focus wide-angle for buildings, etc. Will you kindly advise me? I also thought of buying a hand-camera. Do you think Fallowfield's Facile worth buying for the purpose? It seems to me to be simple, and there is no bother about opening slides, etc., before one makes an exposure, which appears to me an advantage.

I shall probably go by P. and O. steamer to Naples or Brindisi, thence to Corfu and Constantinople. Ought I to take developing materials with me? If I do, I fear I shall find them a great nuisance and incumbrance. With many thanks in anticipation, and apologies, I am, etc.,
R. T. Y. C.

NOTE.—We publish this letter, as many of our readers who have been over the same ground may be able to give help to our correspondent, practically advise, and answer his queries.

* * * *

COPYING.

SIRS,—As with your usual forethought you have published a letter from Mr. J. H. Montagu relating to a branch of photography especially practised at this season of the year, perhaps you will allow me to make a few remarks touching his letter and other points which appear to me to be notable concerning the *modus operandi*. In the first place, when, as is frequently the case, the amateur has no glass house or proper studio to which he can resort, copying is best done in the open air, and not in an ordinary room, as your correspondent advises. I defy any one to produce such good results within the house as are obtainable out of doors, and I was prompted to write these few lines to warn the "countless flock" from following Mr. Montagu's suggestion. Waste of time, plates, and labour will necessarily ensue, and, worst of all, that bitter disappointment which has caused so many to say that copying is beyond the reach of amateurs. Of course, we all know that it is not an easy matter, but practice and patience alone are required when once the right track is hit on. I have found that the best light for copying is that on the shady side of a house on a fine day. Sun must be avoided, while bright clouds are advantageous, inasmuch as they reflect the light down upon the picture to be copied, in the same way as a sheet reflects the light up to the face of the sitter. In the absence of clouds it

is permissible to tilt your picture, if it has an engraving surface; this cannot be done if it has a glazed surface.

Secondly, what does Mr. Montagu mean by the advice, "Put a small amount of bromide in the developer to make the items of the picture more distinct and separate"? I quote from Mr. W. K. Burton's "Modern Photography":—"The result of increasing the bromide is to make the developer much slower, to keep back detail, and to increase ultimate density greatly."

I really can scarcely recommend any novice to follow these two pieces of advice given by one who seems to start new theories of his own quite at variance with those advanced by better known and probably more experienced workers.—Faithfully yours,

Jan. 27th, 1890.

RADIATION.

* * * *

GLAZED PRINTS.

SIRS,—I shall esteem it a great favour if you will kindly permit me, through your columns, to thank Mr. C. Hetton Lewis for his trouble in answering my query respecting glazed surface prints, especially as he has gone so minutely into every detail, and I venture to think that it will now be nearly impossible for others, as well as myself, to go far wrong in the experiment. I should also like to thank Mr. F. J. Thornton for his information on the subject, but I must say I have never used negative glasses for the purpose; perhaps it was in that point I failed. But I do not suppose there would be much difference between a clean negative glass and a piece of clean plate-glass, which I have always used.—I remain, Sirs, yours truly,

January 27th, 1890.

W. E. BEX.

* * * *

PHOTOGRAPHY AT BOULOGNE.

SIRS,—I am glad to hear that Mr. Edward Jackson found every facility given to him to photograph the interior of the cathedral at Boulogne. In 1886, when I was there, the Director asked me to pay sixty francs for this privilege. As this extortionate demand is apparently abolished, it shows how a little pressure in the Press assists the amateur photographer, because I sent a copy of your issue of June 25th, 1886, containing my original letter, and your editorial remarks on it, both to the Director at Boulogne and to his immediate superior, the Archbishop at Paris, with a couple of post-cards containing the most sarcastic remarks my knowledge of the French language enabled me to make. Possibly these communications resulted in a change of the directorate of the Cathedral, as M. Libtoin, the present director, was not there in 1886.—Yours faithfully,

January 25th, 1890.

GEO. H. VERNEY (Lt.-Col.)



Chemistry for Photographers.

By C. H. BOTHAMLEY, F.I.C., F.C.S.

(The Yorkshire College, Victoria University).

WEIGHTS AND MEASURES.

(Continued from page 40.)

THE METRIC SYSTEM derives its name from the *metre* (Gk., *metron*, a measure), which is the unit of length. It is also often called the French system, from the land of its origin. It was intended to be based on a natural unit, and the metre was intended to be one-ten-millionth part of the distance along the surface of the earth from the equator to the pole. An error was however made in the determination, and the actual metre is just as much an arbitrary standard as our own yard. It was defined by a law of the French Republic in 1795 as the distance between the ends of a certain rod of platinum made by Borda, and the actual distance is rather more than an English yard. The value and advantage of the metric system does not depend on the magnitude of the fundamental unit, but on the fact that there is a simple relation between the measures of length, capacity, and weight, and that it is a decimal system, all the sub-multiples and multiples being powers of ten.

The metre is divided into 10 equal parts, termed *decimetres*

(dm.); each of these is divided into 10 equal parts, termed *centimetres* (cm.); and each of these into 10 equal parts termed *millimetres* (mm.).

1 metre = 10 decimetres = 100 centimetres = 1,000 milli-

metres.

1 decimetre = 10 " = 100 "
1 centimetre = 10 "

The decimetre is rarely used, and the only multiple of the metre which is used in practice is the *kilometre* (km.), which is equal to 1,000 metres. As a matter of fact, each multiple or sub-multiple is used as a sub-unit according to the magnitude which is being dealt with. Minute distances are expressed in millimetres and decimal parts thereof; small distances such as we deal with in the laboratory are expressed in centimetres; and long distances in metres or kilometres.

Areas are measured in square millimetres (sq. mm.); square centimetres (sq. cm.) or square metres (sq. m.).

Volumes, if small, are measured in cubic centimetres (c.c.) and fractions thereof. For general purposes a special unit of volume termed the *litre* is employed; it is a cubic decimetre or 1,000 cubic centimetres. Any incomplete part of a litre is expressed as a decimal. For example, 1,200 c.c. would be spoken of as twelve hundred cubic centimetres or 1.200 litres. Any volume expressed in cubic centimetres can at once be converted into litres by moving the decimal point three places to the left (*i.e.*, dividing by 1,000), and *vice versa*. Very large volumes are expressed in cubic metres.

The *unit of weight*, called the *gramme*,* has a simple and definite relation to the units of length and volume; it is the weight of one cubic centimetre of water at 4 degs. centigrade and in the latitude of Paris. It is necessary to specify the temperature, because, as will be explained more fully subsequently, the bulk of a given mass of water varies with the temperature; and also to specify the latitude in which the water is weighed, because, as already stated, the weight of a given mass of any substance depends on its distance from the earth's centre. The *gramme* is divided into tenths (*decigrammes* = dgm.), hundredths (*centigrammes* = cgm.) and thousandths (*milligrammes* = mgm.). The only multiple in practical use is the *kilogramme* (kilo., or kgm.)—which is equal to 1,000 grammes, and is used for weighing large quantities—and the *metric ton*, which is equal to 1,000 kilos.

Just as in the case of measures of length, the sub-multiples are used as sub-units. The quantity 2.437 grammes is not spoken or thought of as two grammes, four decigrammes, three centigrammes, and seven milligrammes, but as two *point* (or *decimal*) four-three-seven grammes. In fact, the only use of separate names for the sub-multiples and multiples is that it enables them to be used as units in dealing with small or large quantities; thus, we speak of five *point* (or *decimal*) two-four milligrammes (5.24 mgms.) more conveniently than of 0.00524 gramme, and of twenty-six *point* (or *decimal*) eight-one kilos, more conveniently than of 26.810 grammes.

It has been pointed out previously that the English and the metric system are quite independent, that the use of one of them does not involve or require a knowledge of its exact relation to the other, and that what the student has to do is to select one and keep to it. The metric system offers considerable advantages over our English system, and it is in almost universal use for scientific purposes.

Sometimes it is useful to know the relation between quantities in the two systems, and the following numbers

* Very frequently spelled gram, but as this is very liable to be misprinted or mis-read as grain, I prefer the original spelling.

will enable this to be ascertained in all cases with very little calculation :

1 metre	= 39.37 inches.
1 litre	= 1.76 pint.
1 gramme	= 15.4323 grains.
1 kilo	= 2.205 pounds avdp.
1 inch	= 2.54 centimetres.
1 fluid ounce	= 28.35 cubic centimetres.
1 ounce avdp.	= 28.35 grammes.
1 ounce troy	= 31.10 „
1 pound avdp.	= 453.6 „

Weighing must be performed with care if accurate results are desired. A good pair of apothecaries' scales, preferably with glass pans, will answer for all purposes except quantitative analysis or research. It consists of a beam which turns on a wedge-like support (known as a *knife-edge*) at its centre. The pans are suspended by cords or wires connected to a hook which hangs in a hole or hook at the end of the beam. (A, fig. 7.) The beam must be of exactly the same length and weight on either side of the point of support, and care must be taken that the hooks carrying the pans hang freely from the proper points at the ends of the beam. A pointer attached at right angles to the centre of the beam shows when the beam is horizontal, or, in other words, when the weights in the two pans are

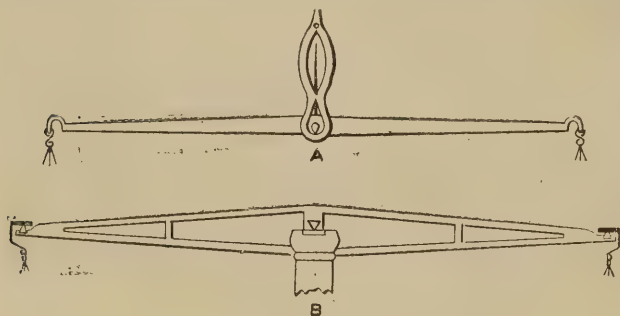


FIG. 7.

equal. Better results are however obtained by allowing the balance to swing gently, and observing the distance beyond the centre to which the pointer moves on either side. When the pointer travels exactly the same distance from the centre on both sides, the weights in the pans are equal.

Accurate balances are of somewhat different construction. The knife-edge at the centre of the beam rests on a plane surface at the top of a firm pillar, and at each end of the beam is a reversed knife-edge on which rests the hook or attachment carrying the pan. (B, fig. 7.) Usually there is an arrangement for lifting the pans off the beam and the beam off the central support when a weighing is not being made.

Observe carefully the following *rules of weight* : (1) Carefully protect the scales or balance from splashes of liquid and from fumes of all kinds. (2) Take equal care of the weights, and handle them with a small pair of forceps (usually supplied with the set) in preference to touching them with the fingers.* (3) Never put on the pan of the scales any vessel or article which is wet on the outside. (4) Never put any substance into the pan without putting a piece of paper or a watch glass or small dish on the pan first, unless the pans are of glass. The paper, watch glass, etc., must, of course, be counterpoised by weights or very small shot before making the weighing. (5) Before putting anything on or taking anything off the pans, always rest them on the table, or in the case of more accurate instru-

ments raise the beam, etc., off the knife edges. (6) Avoid, in general, any jerks or other rapid movements which would injure the balance by disarranging the supports and otherwise throwing it out of adjustment.

(To be continued.)

Winter Work.—XVII.

By T. C. HEPPWORTH, F.C.S.

ON FASHION IN FRAMES.

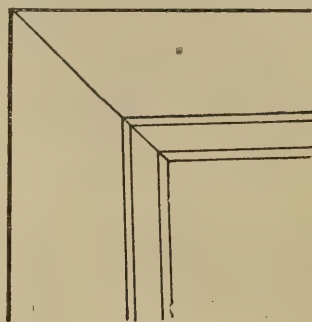
THERE has been somewhat of a revolution in the matter of picture frames during the past few years, and, as a rule, the elaborate frames of past days are giving place to those of a far more simple and less ornate character. In our permanent

picture galleries we can still see the scalloped gilt monstrosities which our forefathers considered necessary to set off their pictures. But in a modern gallery we see few of these old-time frames, for they have been superseded by those of newer fashion. It must be admitted that some of these are so simple in character that they border on the eccentric.

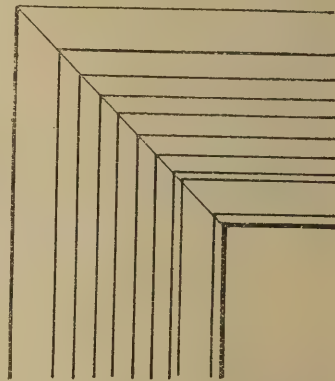
For instance, that wayward genius, Van Beers, who has during the past few years had an annual exhibition of his own works, seems to despise the ordinary gilt frame entirely, and prefers to use a frame made of wood stretched over with coarse canvas and painted with green distemper. Many of his pictures I have seen thus framed, some measuring something less than a photographic quarter-plate being furnished with a frame quite nine inches in width. This arrangement certainly has the advantage of preventing the works being crowded, or injured in effect by juxtaposition, but it is extremely eccentric.

But Van Beers is not the only painter who rejoices in queer-looking frames. Mr. Whistler treats his pictures in much the same way, and evidently with the intention that the spectator's eye should not be enticed away from the principal object.

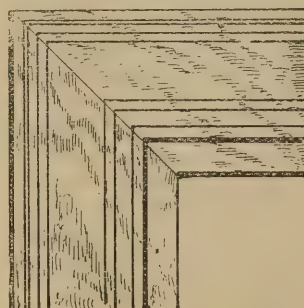
This is all very well, but the idea may be carried too far, and is carried too far, especially by those of our younger artists who are trying to found a new school of painting. The eccentricity of their pictures is often only exceeded by the peculiarity of the frames in which they are set. In portraits of eminent men it would always be well if the frame could be made consonant in



(1.)



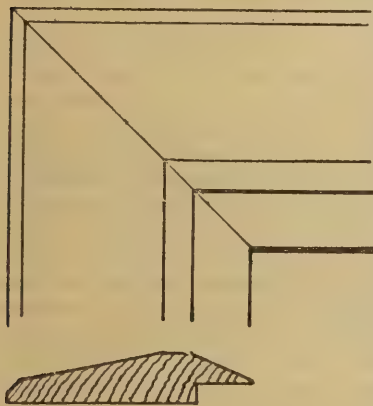
(2.)



(3.)

* This is imperative in the case of accurate sets of weights.

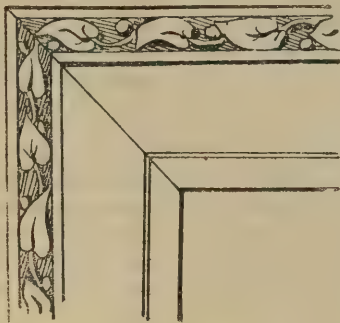
some way with incidents of their lives, studies, or with their works. Thus a portrait of Sir Isaac Newton might be framed in carved wood, depicting some of the apparatus used in his researches, just as in the case of the portrait of another famous Izaak—the father of anglers—which is hung at Brasenose College, the frame is adorned with rod and tackle and other mysteries of the fisherman's stock-in-trade. In a recent exhibition in London I noted with pleasure that an Egyptian subject was framed very happily in gilded wood, upon which were carved representations of hieroglyphics, whilst the two uprights on either side were columns modelled from those of Egyptian rock-cut temples. This plan of framing a picture with regard to its subject is much to be commended. But we must remember that the large majority of persons whose portraits are painted or photographed lead humdrum, colourless lives, and it would tax the ingenuity to its utmost to frame them in a distinctive manner. For ladies' portraits I have lately noticed the introduction of a type of frame which is very effective, and which I fancy is of French origin. It consists of a simple



(5.)

flat, covered with canvas of very open texture, which is glued to the wood and then gilded or silvered. Upon this flat, which has the general appearance of frosted metal, is attached at one corner a sprig of some flower, also in gold or red bronze. This ornament has the charm of carelessness, and is most effective. The same frames, too, instead of being covered with canvas, may be glued and sprinkled

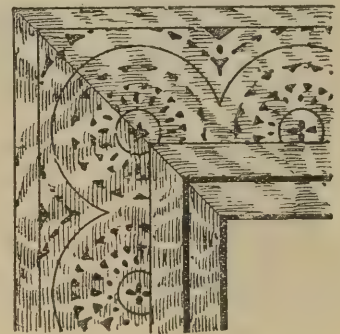
with rice, or any kind of grain, being afterwards silvered or gilt. Gilded oak frames of various designs have also come lately into fashion, and if the wood be of handsome figure—by which I mean beautiful grain—and this grain be allowed to show well through the gold, the effect is as fine as can be desired. This is, moreover, a kind of frame that is well calculated to show off a photograph. Many amateurs who have tried any form of gilding have been tempted to give it up in despair. This arises principally from the circumstance that the gold-leaf used is so extremely thin and light that it is the sport of every breath of air, and it invariably shows a disposition to cling to everything except the precise spot for which it is intended. Like most other delicate operations, this one of gilding requires an apprenticeship before it can be practised with any perfection, and it is very doubtful whether an amateur worker, however skilled, will ever be able to master, without this apprenticeship, the art of matt gilding and burnishing. Under these circumstances, it would seem to be futile to recommend an amateur to attempt to gild his frames, and it would be so were ornate mouldings with burnished lines and projections under consideration. But the matter of gilding an oak flat or rounded moulding is comparatively



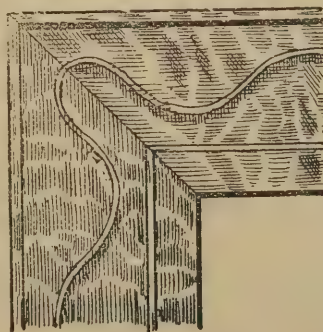
(4.)

—one forming a kind of inner slip to the other. Fig. 2 is of ribbed dark or stained wood, with a gold slip next the picture. Fig. 3 is a moulded oak frame, gilded so that the grain or figure of the wood shows up clearly through the gold, and catches the light in a very pleasing manner. I may mention that such moulded wood is sold at many sawmills, for decorative purposes, and by a little building up at the back may be rendered serviceable for picture frames. Fig. 4 is more elaborate, because it has a carved border, but the major part of the frame is flat oak gilded. No. 5 is a bevelled frame, the bevel running in two different directions, as may be seen by reference to the sectional diagram. Such a frame can be made of various materials, so as to suit the picture or the wall upon which it has to be hung. This latter point, although a minor one, is of some importance. Plain oak looks well almost on any wall, for it is neither very light nor very dark in tone. Ebony frames look well on dark walls, but afford a violent and unpleasant contrast to a light one.

Fig. 6 has a more elaborate appearance than the frames already noticed, because of the pattern carved upon it. The frame can be made of oak, and the pattern marked upon it by means of a stencil; the marked portions being afterwards cut out with a carving tool—no very difficult matter. The frame from which I copied this pattern was gilded oak, and was in keeping with the subject of the picture which it held—the courtyard of a stately old building. No. 7 is also a gilded oak frame, with a kind of raised wavy bead upon it, which forms a loop at each corner.



(6.)



(7.)

simple, and well within his powers. The operation has, moreover, been simplified by the introduction of the transfer process, by which the gold leaf is kept well in hand, and unable to stray away during the progress of the work. This transfer gold is sold in leaves, which are attached to waxed paper, an attachment which is finally overcome by the greater tenacity of the medium employed to stick the metal to its final support.

I will now briefly describe each pattern of frame which is here illustrated.

Fig. 1 consists of two flats of dead gold —one forming a kind of inner slip to the other. Fig. 2 is of ribbed dark or stained wood, with a gold slip next the picture. Fig. 3 is a moulded oak frame, gilded so that the grain or figure of the wood shows up clearly through the gold, and catches the light in a very pleasing manner. I may mention that such moulded wood is sold at many sawmills, for decorative purposes, and by a little building up at the back may be rendered serviceable for picture frames. Fig. 4 is more elaborate, because it has a carved border, but the major part of the frame is flat oak gilded. No. 5 is a bevelled frame, the bevel running in two different directions, as may be seen by reference to the sectional diagram. Such a frame can be made of various materials, so as to suit the picture or the wall upon which it has to be hung. This latter point, although a minor one, is of some importance. Plain oak looks well almost on any wall, for it is neither very light nor very dark in tone. Ebony frames look well on dark walls, but afford a violent and unpleasant contrast to a light one.

“TYLAR'S ANNUAL AND PRACTICAL HINTS” has just come to hand, and it is a very useful, handy, and tastefully got up publication. The reproductions of pictures by well-known amateurs are fair, but the hints on general manipulations are eminently practical. The book is also a catalogue of every piece of apparatus that the photographer, professional or amateur, can desire, and we must congratulate Mr. Tylar on the fact that he distributed 20,000 copies of the “Practical Hints” during the past year.

“THE Photographer's Diary and Desk Book for 1890” is a very useful publication, and will no doubt meet with a large sale among amateurs who care to make a daily record of their doings. There is included in the volume a very good epitome of recent apparatus and formulae, together with much information the progressive photographer will be glad to assimilate.

Photographic References.

BY MAJOR J. FORTUNÉ NOTT.

APPARATUS.

(Continued from page 42.)

Tripod-heads.—For some reasons best known to themselves, manufacturers persist in making tripod-heads much too small. When this defect is excessive the article should be decidedly rejected. The base-board of the largest-sized camera for which it is intended should be the guide for the proper dimensions of the tripod-head. It should also be attached to the legs by some method that does not necessitate projecting clamps. Some otherwise well made tripods have these easily-to-be-dispensed-with pieces of ironmongery, which not only make the tripod head a clumsy affair, but when it is packed with the camera and dark slides these projections are frequently the source of the damage the apparatus sustains when travelling.

The latest and most improved forms of camera are made so that a tripod head is not required. Its duty is fulfilled by a turntable being inserted in the base-board of the camera itself, to which the legs of the tripod are clamped direct. This form of camera is a most convenient one, and reduces by two the number of different articles constituting the *impedimenta* of a photographer, for the attaching screw is also dispensed with. One drawback these turntables possess when not well made; in damp or hot climates the wood is liable to swell or the metal to expand, so that it sticks, and by refusing to revolve becomes troublesome. A camera of this form should therefore be examined, and any liability to this defect that may be apparent should be remedied.

The thumb-screws required to attach ordinary cameras to the tripod should also be larger in diameter than those generally employed. This screw may conveniently be attached by a string to the tripod head, but it should not be a fixture in the screw hole, for it is then a projection, and the same remarks apply as before made respecting the leg attachments.

On some occasions where the use of a tripod is out of the question a photographer can employ in a similar capacity a small clamp which is sold for the purpose. This ingenious piece of apparatus can be fastened to a tree, gate, or boat's gunwale, and when the camera is attached to it, will permit, by a ball-and-socket arrangement, of all the necessary movements being made when focussing.

Hints Concerning Tripods.—The legs of a tripod are generally shod with iron spikes, which are useful arrangements for all out-of-door work, but are a drawback when it is being employed in an interior, for if the flooring is of hard wood or stone a ready purchase cannot easily be obtained. Under these circumstances pieces of cork, wood or some cloth fastened to the sharp points will prevent to some extent the tripod evincing a tendency to slide about.

Dark Slides, or "Backs," as they are frequently called, are the cases made to carry the sensitive plates in such a manner that when the slides are placed in the camera, in the position ordinarily occupied by the focussing screen, a plate can be exposed without any light other than that entering through the lens affecting it.

There are several varieties of these dark slides, but, under ordinary circumstances, the purchaser of photographic appliances had better buy as many as he requires of the pattern the maker of the camera recommends as suitable for his patent. As these contrivances are generally made to hold two plates each, they are often called, in consequence, "double backs." The plates are brought into

register alternately by the simple process of reversing the back. Since the use of "dry plates" has superseded the employment of "wet collodion" ones, single backs are rarely used, except, perhaps, for studio work. The style of "double back" that seems to be the most popular is the one known as the book form.

Whatever pattern is chosen, the following features should be considered as essentials. The "back" should exclude light at all points, for the very faintest ray penetrating therein will mar the photographer's work, and even if he takes care to always keep his double backs well covered up, a weak spot therein becomes the source of constant anxiety at a time when his mind should be perfectly free from any such feeling.

There are three weak parts in these double backs. The first is in the hinged opening or division between the two halves, which permits of any warping or drying up of the wood to cause a slight aperture through loss of absolute contact between the parts. This undesirable feature of these contrivances for holding extremely sensitive materials has caused some manufacturers to make these double-backs in one solid piece, the plates being either slid into position through grooved openings in one end thereof, or "buttoned" into place when the shutter is withdrawn. Weak places exist in the manifold hinges some makers adopt for enabling the shutter when drawn out to be folded back out of the way, which is a very desirable convenience for the shutter to possess, but, nevertheless, is not one worth procuring by any destruction of its light-excluding capabilities. It is quite possible, however, by a proper system of grooving, or by means of a suitable backing, to make these hinged shutters quite light-tight. A thorough testing is the only way, however, of finding out whether they are reliable; and to learn their merits in that direction, it is worth while sacrificing a few plates. Fill the double backs in the dark room with sensitive plates of the full size, and subsequently leave them out in a bright light for a short time, or even in sunlight for some minutes. Afterwards in the developing room treat the plates as though they had been exposed. If light gets in, the place will be shown by black marks becoming visible, or in very bad cases by fog appearing all over them, but of greater density where the weakest spot exists in the double back. If the slide keeps out light the developer will fail to exert any influence on the plate.

Another weak spot in these double backs exists in the opening through which the shutter or slide is drawn out. The fog produced through defect in this arrangement, by allowing the light to glance along the surface of the plate, is of such a peculiar character that once it has been seen, it can always afterwards be immediately recognised. Some shutters are made to draw completely out, and the aperture through which they pass closes with a spring. If carefully manipulated, they appear to work well, but there always exists the risk of some dust or a fine splinter catching in the opening and preventing it completely closing. Again the shutter becomes a loose piece, and under some circumstances can in consequence become a bother. If made of vulcanite or any fragile material, it suffers the increased risk of being broken by an accident or through the wind catching it and causing it to fall. The folding shutter when thoroughly well made is probably the best, and is a favourite in England, but in America the solid shutter is preferred.

Dark backs, made of metal, have been introduced by Mr. Tylar, of Birmingham, and some advantages are claimed for them over wood. They are more compact, in consequence of their being made thinner than wood will permit with safety, and they are perfectly light-tight, for the grooving in which the shutter slides are made much deeper than in the ordinary double back. Certainly they are much

more durable, for the weather or rough usage will not affect them to the same extent; but the advantage is not all on the side of metal in the matter of weight, nor in other respects in some minor conveniences. The exposing slide being solid, when it does not draw completely out it juts beyond the camera in a most awkward way, which is especially inconvenient when the picture is being taken horizontally. This feature keeps the cloth away from the camera at the very time its protection is required, and as it is liable to catch the wind will frequently become the source of vibration. The form of metal slide in which the shutter is not a fixture therein is the one, therefore, which is to be preferred, always presuming that it is equally light-tight.

Feather-weights.—Some very light forms of "double backs" are made in the United States to which this name has been given. They are very similar in shape to some English dark-slides but the material employed in their construction is different, cardboard being in some places substituted for wood, and the wood used is of the very lightest character. They are consequently nothing like as heavy as mahogany-made backs, but being of such a fragile nature that they require excessive care in handling, these "feather-weights" are not liked on this side of the Atlantic. One contrivance some of the slides possess is worth mentioning. After the shutter has been completely drawn out to make an exposure, it can be reversed before being returned, and as both sides are differently coloured, there exists a sure guide for the prevention of any double exposure. In others the back of the shutter is roughened so that it can be written on, and by this means a record can easily be made of all the required details concerning the exposure.

All dark-slides should be numbered consecutively and very distinctly, so that the number of the plate exposed can quickly be discerned for recording purposes.

The catch that prevents the shutter from being accidentally drawn out should be of a very efficient character; the ordinary bent wire arrangement is certainly not to be recommended. Some ingenious and simple springs are now made, and they should be applied to all dark-slides, for a badly secured shutter is very liable to be the cause of annoyance at some time or other.

(To be continued.)



Our Contemporaries at Home and Abroad.

THE *American Lithographer and Printer*, speaking of photo-mechanical processes, says, "One of the most workable of the processes is the last named, 'collo type,' and the results obtained by it are almost equal to, and more suitable for, illustrative purposes, than sun-prints from the original negative, while it allows of copies being struck off at the rate of from six to eight hundred an hour, on steam presses very similar in appearance and construction to those used for ordinary lithographic work."

The *British Journal of Photography*, in an article on "Patents and Trade Marks," speaking of the law on the subject, says, "We say 'moderately reliable,' for, alas! the law, in its practice, is far from being an exact science, whatever it may be in theory, and one judge does not always agree with another, even when a case has been argued before both." Another article on "Acid Solutions of Hypo," referring to the sulphur toning process, says, "We are convinced that a thorough investigation of the subject, even at this day, when processes of known absolute permanency exist, would be fruitful in valuable practical results. . . It is evident from the quotations we make that we are still far from being able to form a true working hypothesis regarding the old sulphur toning." Articles: "The New Rollable Film of the Eastman Co.," "Odd Jobs," "The New Benzoline Limelight (iii.)," "Photographic Pleasures" by the late Cuthbert Bede,

"Illumination of Negatives for Transparency Printing by Artificial Light (ii.)," etc.

The *Journal of the Photographic Society of Great Britain* contains papers on "The Control in the Density of Negatives;" "The Distance beyond which all Objects will be in Focus with any given Lens," giving a useful table; "Eikonogen as a Developer in Practice," by Mr. W. K. Burton, in which he says, "After all, I have not answered, even to myself, the question that I started with, namely, shall I prefer eikonogen to pyro for general work? It will be seen that I consider that the claims that have been put forward in its favour are extravagant. On the other hand, it has certain advantages. One of these is its extreme cleanliness. This will probably have more weight with most people than with myself. Then it is hard to part with old friends that you do, or at least fondly believe that you do, quite thoroughly understand," etc.

The *Journal of the Photographic Society of India* (Calcutta), a very interesting publication, is accompanied this month by a reproduction of a picture of the Burning Ghat, Benares, and contains an excellent paper on "The Indian Amateur Photographer, another "With the Sushai Field Force," and also an exhaustive article on "The Recent Photographic Exhibition at Calcutta."

The *Journal of the Society of Arts* contains a most instructive paper by Mr. R. Brudenell Carter, on "Practical Vision Testing," which will be found of some interest to photographers.

The *Photographic News* (Japan) is no doubt a most interesting publication, but as we are unable to read the peculiarly graphic characters of the language, we cannot express a decided opinion on the point, but must assume the fact in consequence of Mr. Burton's connection with it. There is, however, one thing we can see and understand, viz., that it contains two prints, illustrating untouched and retouched negatives, the exact copies of two which were given in 1875, in "Vogel's Chemistry of Light and Photography." We should have thought that in a country so go-ahead as Japan, the Editor could have managed to secure some more recent pictures illustrative of the point.

The *Photographic News* devotes its first article to "Purpose in Photographic Work," and gives some very good advice on the point. It says that the man who studies the history of his locality soon finds a purpose, and "such relics of the past as modern improvements have not yet removed he will photograph ere it is too late, and feeling the absurdity of trying to render his pictorial records more permanent by means of albumenised paper prints than the original objects themselves, he will plunge into higher branches of photography, such as relate to ceramic, platinotype, and carbon pictures, thereby doing service to the public, and building for himself a lasting reputation." Articles: "Wedgwood," "The Best Photographer," "Photography in Germany," "Eikonogen," "The Late Cuthbert Bede," "The Daguerre Monument at Washington," etc.

The *Photographic Times* (New York), in its editorial notes, says, "Traddell and Young have determined, after a series of carefully made experiments, that eikonogen is not suited for making ten per cent. solutions, on account of its limited solubility. They claim that the finest details and best printing density are obtained with this developer when made after the following formula:—(A) Eikonogen, 1 oz.; crystallised sulphite of sodium, 4 ozs.; distilled water, 3 qrts. (B) Crystallised carbonate of sodium, 1 oz.; water, 3 qrts. Equal volumes of A and B are used for correct exposures; and proper modifications are made by increasing or diminishing one solution or the other, as in the case of the alkaline pyro developer. For instantaneous work they recommend increasing the strength of the developer by reducing the quantity of water." Articles: "Pyro Solutions," "Photographing Wild Buffaloes on our Western Plains," "Deterioration of Ultra-Sensitive Gelatine Films," "New Photographic Developers," etc.

Photography, speaking on the subject of "The Separation of Amateur and Professional Work," says, "We are not going to declare it bad absolutely, but certainly it cannot claim to have accomplished any great things so far. It advances neither the artistic nor the scientific side of photography, and beyond enabling very mediocre work to win prizes at exhibitions does not appear to us to serve any good purpose." On "Retouching," it says, "It is impossible to define exactly the scope of legitimate work upon the negative, but if universal respect could be got for the principle that retouching ought to be confined to the getting

rid of accidental faults and the few defects inherent in photographic processes, so far as these can be modified without interfering with the integrity of the production as a photograph, there would be no need of definitions." Articles: Gelatine Plates for Photo-Mechanical Line Work, etc.

The *St. Louis and Canadian Photographer*, in a letter from A. Bogardus, says, "It is the duty of the skilled operator to pose all these faces to the best advantage. But the camera will not discriminate. All these peculiarities which they wish to avoid will show. And as it is the truth, why should they not show? If the mother has small eyes, shall her picture show large ones, or if her eyes are large shall her descendants see her with small ones? It is a question of truth or of falsehood. Just as well paint her hair a fashionable colour, when the fashionable colour is not the colour of her hair. Shall the Indian be pictured without high cheek bones because he desires those points modified?" Articles: "Low Level," "A History with a Moral," "Apprenticeship," "Photographing Children," "Illumination of Studios," "Improvement of Faulty Negatives," etc.

Wilson's Photographic Magazine (New York), among its editorial notes, says, "The prince of hand-camera workers in England, so far as our information goes, is Mr. A. R. Dresser, of Kent. A recent letter from him contains about a dozen lovely bromide prints of dogs leaping and running, and even climbing a tree. They are splendidly caught and fully exposed. Nothing could be better. Added to these are several picturesque groups of natives of Brittany made during Mr. Dresser's recent trip here. Of this trip, Mr. Dresser promises to send us an illustrated descriptive article which will probably run through two or three numbers of our magazine. Mr. Dresser has, at recent exhibitions, taken as many as five medals for his work. We congratulate him on his splendid success." Articles: "An Operator's Hints," "Light," "New Developers," "Husnik's New Autotype Paper," "A New Eye," etc.

"Thursday Evenings" at the Camera Club.

BY ONE OF OUR STAFF.

THE Rev. A. B. Whatton was most appropriately selected as Chairman at the meeting of the Club on Thursday evening, the 23rd January, the subject of the paper being "English Church Architecture as a Photographic Subject." It was a most interesting and excellent paper by the Rev. T. Perkins, M.A., and we cordially endorse the eulogiums passed upon it during the subsequent discussion.

The paper opened with a statement which was not allowed to go unchallenged, and which might have raised a long discussion in a larger audience, namely, that photography was divided into scientific and artistic work, and that all photographs might be regarded as intended to have some interest for those who saw them on account of some object in the picture, and to be more or less successful attempts at art. Success in the latter respect was rare, however, and amongst those who now use dry-plates, very few could be regarded as artistic. Men born artists will produce artistic work, some in one way and some in another, but it was as useless to make artists by teaching the laws of composition as to try to make poets by teaching the laws of prosody. On the other hand, the laws of composition are useful to the artist as those of prosody are to the poet. In respect to architecture, there might, however, be a combination of both scientific and artistic work. Faithful representations of many natural objects and of particular places and things would in time be of value, and if the point of view were well chosen, the picture might have some artistic features as well as the scientific ones. It was never more necessary than now that cathedrals and churches should be photographed, as everywhere the restorer, whom they all hated, was at work. Here again we quite agree with the speaker; restorations, except in very few instances, always spoil the appearance of the buildings, and in many cases quite alter their architectural character. But this is an evil not confined to this century; it has existed for a long, long time, and there are to be found few churches in pure style in England to-day. Still, as Mr. Perkins pointed out, if we cannot preserve these old buildings intact, we can at least preserve correct views of them, and it behoves

every photographer who lives in the neighbourhood of an old church to photograph it inside and out, without waiting for the advent of the restoring ogre to apply the spur to his laggard zeal for the beautiful. Coming more directly to the subject of the paper, the reader said that there were in England very few remains of an earlier date than 1,000 A.D. Many of the churches before that time were constructed of wood or wattle work, and were looked upon as temporary erections, but in more than one hundred churches work of an earlier date than the Conquest is to be found. Mr. Perkins then briefly pointed out the various divisions of Gothic architecture, and described the distinguishing characteristics of each, referring in each case to some cathedral or church illustrating the point. They often found a difficulty in getting a good general view of a cathedral or church on account of the houses being in such close proximity, but the best view was generally at the south-east. A sunny day, shortly after midday, when the tower was in shade, was generally the best time; if the tower was to be the point of interest, a view from the west was preferable. If the view were to be taken from the north-east, early morning or late evening was the time to choose. In taking the views the use of a wide-angle lens to its full extent was to be avoided; it was a mistake to get too much on the plate. He would strongly deprecate the use of wide-angles for interiors; the exaggerated perspective was painful and obtrusive, and the falling off in the light towards the margin was a serious drawback. In interiors there was little fear of giving too long an exposure; it was better to over-expose and develop with a weak developer till the detail was out, and then to strengthen the solution, or trust to intensification. It was also well to begin with stop $f/32$ for sharpness, and then to alter it to $f/16$ for light, and to shorten the exposure. In conclusion, he reminded his hearers that it was not only well to get general views, but to look after the interesting and beautiful bits which were scattered about many of the buildings.

A considerable number of slides made by Mr. Perkins were then thrown on the screen, giving views of many interesting churches, particularly those of Somersetshire, and of some of our cathedrals.

The Chairman echoed the advice given to photographers to get views of the churches in their neighbourhood, and expressed the belief that such a course might tend to the creation of a style of architecture worthy of the times. Mr. Gale had nothing but commendation for the paper and the views expressed by the reader, and agreed that the towers of the Somersetshire churches were exceptionally fine. He was of opinion, however, that architecture could hardly be done justice to with small plates, except for lantern purposes, and that had prevented him from going in for it. The churches of Wren, in the City, were well worth photographing, particularly the campaniles, of which there were no two alike. Mr. Whatton was sorry that they had not had some views of the existing wooden churches, especially as he had never seen one of them, though he believed there was one near Epping (Greenstead, near Ongar).

Mr. Davison was of opinion that they ought to make a clear distinction between scientific photography and artistic. The admirable work to which Mr. Perkins had devoted himself was of course scientific in its aim—getting scientific views without any idea of getting pictorial effect. In scientific work they gave as many facts as possible, and expressed them without much consideration of the form of expression in which they clothed their ideas. In artistic work the whole case was altered; they must not offend against truth, but they had also to record the innermost meaning of life or landscape as far as they could without distracting the mind by introducing variety of detail, which could only have prosaic scientific interest. For artistic work, too, they should go to their study without any preconceived ideas as to the point of view or time of day. Those who had a bent for pictorial art would find it out sooner or later, but even if one had great native faculty in that direction, a course of study was equally necessary. Artistic work was, to a great extent, due to long and painful study, and close and accurate teaching of the eye to see. He could not help reminding them of the work of Mr. S. H. R. Salmon in regard to photographing the London churches, which had been mentioned. There was one excellent lesson taught by Mr. Perkins' useful work, and that was that photographers who felt no appreciation of or call to artistic work should have some definite and connected purpose in their photography. This would add greater interest for the worker, and might prove useful to others.

Mr. Perkins briefly replied, and the proceedings were terminated by the Chairman expressing the thanks of the members for the paper.

On Thursday, February 6th, the lantern will be employed to exhibit some Dutch views by Messrs. Elder, W. A. Greene, and others, and some general subjects will also be shown.

Exhibitions.

AMATEUR PHOTOGRAPHIC EXHIBITION AT CASTLE WEMYSS, N.B.

A LARGE collection of beautiful photographs of almost every class was exhibited recently in the spacious tennis court at Castle Wemyss. Although the notice given to the public was very short, upwards of 300 pictures arrived for exhibition from ladies and gentlemen in different parts of Scotland and England. The judges were three professional gentlemen well qualified by experience to perform the duty, and, after studying the pictures carefully, they awarded sixteen prizes—eight firsts and eight seconds.

Amongst the pictures for exhibition, but not for competition, there stood out prominently a few yachting scenes on the Clyde by a well-known gentleman in the West of Scotland, Mr. W. J. Finlayson; two most beautiful hoar-frost scenes, by Mr. Paul Lange, President of the Liverpool Photographic Society; and a very fine enlargement of the "Forum in Rome," by Mr. Henry Erskine Gordon.

In Competition I., Class 1, the first prize was awarded to Dr. J. Cowan Woodburn, and the second to Miss Burns. Twenty pictures were exhibited, "Children and Dog," which secured the first prize, being excellently posed and well lighted, whilst the execution is also good. In Class 2 of the same competition the first prize went to Miss Burns, and the second to Miss M. McNair. There were twenty-eight pictures shown. The picture of "Kelly Burn," by Miss Burns, was very much in advance of any other shown in this class, and easily obtained the first prize.

Competition II., Class 1, consisted of thirty-eight pictures, many being of very excellent quality, both as regards posing and manipulation. The first prize, "Fisherman and Wife," by Mr. D. R. Clark, M.A., a very clever composition; the second prize, "Lady and Dog," by Mr. D. Cunningham, of Liverpool. "Lady and Child," by Mr. Fred. Mackenzie, and a frame of three heads, by Mr. D. R. Clark, are the most noteworthy of other pictures exhibited. Competition II., Class 2, was that in which the largest number of entries were made, and contained a remarkable amount of most excellent work. Mr. Dove secured the first prize for "A View in the Trossachs," and Mr. Taylor the second, for "A View on the Lochy, near Killin. Both are good examples of pure landscape photography. "A Yachting Scene" (instantaneous) by Mr. Turner, and "An Evening Sea View," by Mr. Hinshelwood, secured first and second prize in the third class of this competition.

Mr. Dove and Mr. Clark secured first and second prize for platinotype prints. Mr. Clark and Mr. Cunningham first and second for excellent enlargements. Mr. Clark's "Mosque of Sultan Achmet," in platinum, a very fine picture; and Mr. Cunningham's "Liverpool Exchange," being a good example alike of instantaneous work and enlargement.

In the class for lantern slides there were six entries, the first and second prizes being awarded to Mr. Turner and Miss Collier. The class was good.

The prizes consisted of silver and bronze medals, having on one side a picture of Castle Wemyss, and on the other a suitable inscription.

In the evenings, at the exhibition, a lime-light entertainment was given by Mr. H. E. Gordon, consisting of slides done from photographs taken by Mr. Gordon in Italy, and some beautiful Norwegian scenes from photographs done by Mr. Hinshelwood while in Norway last summer.

Societies' Meetings.

NOTE.—In this column the Editors can, of necessity, only give a brief summary of the proceedings. The PHOTOGRAPHIC SOCIETIES' REPORTER was established to report the transactions of Societies, and the Editors will be glad to receive reports for insertion as early as possible after the meetings have been held, and at the latest before the 24th of each month.

BIRKENHEAD PHOT. ASSOC.—The ordinary monthly meeting of this Association was held on the 9th inst. Messrs. Whimchin and G. Reid Moir were unanimously elected members. After presenting the medals won in the annual competitions to Messrs. Mackrell and Wilkinson (two medals each, bronze and silver), Mr. Lange resigned his position as President in favour of Mr. P. H. Phillips, the President elected for 1890. A vote of thanks to the 1889 officers, for their services during the year, was proposed by Mr. Stainstreet, seconded by Mr. Fattin, and carried unanimously. A somewhat retrospective address was given by Mr. Phillips on his taking the chair, in which address he drew the attention of the members to the enormous strides made by the Association since its inception, and appealed to them to signalise his year of office by their hearty co-operation, in making it a year of even greater successes. Mr. W. B. Beaten (Messrs. J. J. Atkinson and Son) exhibited a flash-lamp invented by Mr. Collins, of Philadelphia, and some Hetherington's films for compound printing. Mr. H. Wilkinson gave an account of his investigations with regard to orthochromatic plates, exhibiting a water-colour drawing and four photographs of same, one on ordinary plate, using a yellow screen before the lens, one on ordinary plate without the screen, and two orthochromatic, with and without a screen. The results were freely commented upon by the members, Mr. Wilkinson's statement that the result obtained on the orthochromatic plate, using a yellow screen, was the most perfect, being fully endorsed by all present. Dr. Stansfield stated that his experience led him to believe that for microphotographic work nothing was gained by using orthochromatic plates. Mr. Frank Vaughan (Messrs. Vaughan and Forbes) then gave a very interesting demonstration on "Photo-Zincography," illustrating it throughout by specimens of work in the various stages, and, where possible, by actual manipulation. Considerable interest was aroused by the development of the latent image on the zinc plate, by Mr. Vaughan, and throughout his explanations and answers to queries were marked by a clearness and lucidity which proved him to be a perfect master of this useful branch of photography. The meeting, which had been of a most enjoyable nature, closed by tendering to Mr. Vaughan an enthusiastic vote of thanks.

BIRMINGHAM PHOT. SOC.—The ordinary meeting was held at the club-rooms, Grand Hotel, January 23rd, Mr. E. H. Jaques, Vice-President, in the chair. The Chairman announced that the President, Mr. J. B. Stone, J.P., had offered a prize for the best set of six views, taken within a radius of ten miles round Birmingham. Mr. Godfree exhibited a very handy bichromate battery for producing an electric light for developing by. Dr. W. W. J. Nicol, D.Sc., then gave his paper on "Iron Printing," which was illustrated with interesting chemical experiments. Mention was made of the different forms of iron printing, the "dusting on" process, sepia-type, platinotype, and particularly his new process, the "Kalotype." This is as follows:—The paper is coated with ferric oxalate 5 per cent., ferric tartrate 5 per cent. On exposure the ferric salt is reduced to the ferrous salt, and is then developed with potassic oxalate 10 per cent., nitrate of silver $1\frac{1}{2}$ to 2 per cent., ammonia sufficient to clear. The print is developed by floating, the same as platinotype. It is then washed in three baths of ammonia 1 oz., citrate of soda $\frac{1}{4}$ oz., water 1 gallon. Specimen prints were distributed, and were much admired, a great advantage being the fixing without the use of hypo, thus securing greater permanence.

BLACKBURN AND DISTRICT PHOT. SOC.—A largely represented meeting of amateur photographers has been held for the purpose of forming a local photographic society. Mr. Tattersall, jun., of Beardwood, who was elected to the chair, explained the many advantages such a society would yield. He read encouraging letters from Lancashire societies, offering every assistance. Judging from the large assembly, he (the Chairman) thought there was every prospect of a good society being formed in Blackburn. Major Baron, of Darwen, moved that the society

CORRECTION.—Query No. 3387, Jan. 24, signed "Tyro," should read, "Hypo-sulphite of soda, 4 ozs.; water, 20 ozs.; 10 per cent. ammonia, 1 drm.;" and not as printed, "Hypo, 4 ozs.; sulphite of soda, 20 oz.; water, 1 drm.; ammonia, 10 per cent. sol."

should also embrace the towns of Darwen and Accrington, and include both professionals and amateurs. He was a member of several of the leading societies of London, which were mixed bodies, and worked together with great success. He proposed that the name of the association be "Blackburn and District Photographic." He felt sure that Darwen would contribute its share of support if an association was formed on a firm footing. Mr. Burrows suggested that ladies be invited to join the association. Nothing definite was come to, but the following gentlemen were appointed (*pro tem.*) to carry out the preliminary arrangements: Major Baron, and Messrs. Garland, Burrows, and Mitchell. It is expected that the Committee, along with Mr. Tattersall as Hon. Secretary, will be the means of forming a successful association. About thirty gentlemen gave in their names as members, and it was decided to call an early meeting to settle about the rules and other important matters. A hearty vote of thanks to the Chairman concluded the business.

BRISTOL CAMERA SOC:—On Thursday last, under the chairmanship of Mr. F. Holmes, a very enjoyable evening was spent at the University College, by the members of the Bristol Camera Society, who attended in goodly numbers to witness a large and varied exhibition of lantern slides. A prize had been offered by the Society for the best six slides sent in for competition by the members. Mr. E. Brightman kindly consented to act as judge, and awarded the prize to Mr. Lavington, a decision which met with general satisfaction. Messrs. Brightman and Norgrove kindly exhibited a selection of their own slides, which were much admired, as were also those sent at short notice by the Ilford Company with their characteristic kindness. In some well-chosen remarks the Chairman proposed a hearty vote of thanks to Mr. Brightman for his kindness in being present, and to the Ilford Company for contributing to the evening's enjoyment. Two new members were balloted for and duly elected.

BRIXTON AND CLAPHAM CAMERA CLUB.—An exhibition of photographs (the first annual show), held on the 20th and 21st, proved to be a highly successful affair. On the walls were shown the prints entered for competition by the members, and also a fine collection of enlargements by the President, Mr. A. R. Dresser. The medal offered by the proprietors of the *AMATEUR PHOTOGRAPHER* was gained by Mr. T. J. Bartrop for a fine "View of Brander's Pass, Loch Awe," the second award in the landscape class going to Mr. T. J. Bradley for "Low Tide, Shoreham." In the class for portraiture, first place was secured by Mr. J. W. Coade, some creditable work being also shown by Messrs. Gorfin and Green. A good display was made in the enlargements class, and Mr. T. J. Bartrop was awarded the Club's silver medal for his "View of Penshurst." Exhibits by Mr. Coade and Mr. F. W. Kent were also highly commended by the judge (Mr. Charles W. Hastings). Mr. Bartrop was also fortunate in taking the award in the class for architectural studies. During the evening the oxy-hydrogen lantern was used to show the competition slides, those gaining commendation being "On the Thames, Moonlight," and "The Lake, Kew Park," by the Hon. Sec. (Mr. F. W. Levett), and also "The Yacht Pilgrim," by Mr. Bartrop. A capital set of animal studies, taken at the Zoological Gardens by Mr. Dresser, were also shown, together with his well-known series, "My Climbing Dog."

EAST DULWICH AND PECKHAM PHOT. SOC:—The usual meeting was held on Friday, January 17th, the President, Mr. F. W. Edwards, in the chair. The subject for the evening was cameras, stands, and shutters. Amongst the shutters exhibited were the following:—Newman's, Watson's snap drop shutters, Kershaw's, Guerry's, Mayfield's, and several others. Mr. Cadett kindly sent three specimens of his shutter, in one of which all chance of vibration was obviated. There was also on view one of Messrs. Perken, Son, and Rayment's Optimus three-fold and one of their four-fold stands, the opinion of the members using which was that nothing more rigid could be desired. A Humphrey metal stand was also shown. The question of cameras was adjourned, as the discussion and examination of the various shutters and stands took up the whole of the evening. Mr. W. Rice drew the members' attention to, and showed a specimen of the new Optimus wide-angle Euryscope lens. This lens, as a wide-angle lens, is a great improvement over the wide-angle portable symmetrical, as, while this latter lens works at $f/16$, the wide-angle Euryscope works at $f/9.50$, this making it an excellent lens for hand-cameras, the angle of view being about the same as the wide-angle portable symmetrical. The following gentlemen were elected members: Messrs. B. Lyon, E. Cann, Robert Burch; and four names proposed.

HACKNEY PHOT. SOC:—On the 23rd, Mr. Hart gave a flash-light demonstration. The chair was occupied by Mr. Grant during the absence of the President, who was called away. Mr. Hart gave an interesting account of the discovery of magnesium, ascribing it to Sir Humphrey Davy. He showed the raw materials from which magnesium was made, experimenting with a piece of sodium on water, which fizzed and finally exploded, proving the explosive nature of one of the ingredients. Specimens of photos taken by a lamp he had constructed were shown, and met with approval from the members. He took a group of a dozen members with six of the lamps spread over a space of 6 ft. to 8 ft., so as to equalize the light. Several questions were asked relative to the lamp used and its various parts. The demonstration was much appreciated, and a vote of thanks accorded Mr. Hart. Mr. Huddle showed a detective camera of his own construction which he had patented, and was bringing out under the name of the "Ideal," through Abraham, of Aldersgate Street. Its changing was done by pulling out a knob. The great novelty, however, was a self-setting time and instantaneous shutter. Its weight was less than the usual run of hand-cameras, and its character was more disguised.

HASTINGS AND ST. LEONARDS PHOT. SOC:—The annual general meeting of the Hastings and St. Leonards Photographic Society took place on January 13th. The officials for the past year were re-elected, and the report and balance-sheet adopted, and seven new members elected. Mr. A. R. Dresser then gave a very interesting paper on "Hand Cameras," illustrated by a number of enlargements and lantern slides produced from hand-camera negatives.

HOLBORN CAMERA CLUB.—The usual monthly lantern night was held on Friday, 24th, when the *Photography* lantern slides were shown before an audience of members and friends in the large room of the Holborn Cycling Club. Friday, Feb. 7th (at 8.0), will be devoted to the instruction of beginners, when "How to Select a Camera and Lens, and How to Use them to the Best Advantage," will be demonstrated by the Secretary and others.

NEW YORK CAMERA CLUB.—The first annual meeting of the New York Camera Club was held on Wednesday, January 8th. The reports of the different officers were read, and that of the Trustees regarding the condition of the Club was very gratifying. On suggestion of the Trustees, a change was made in the bye-laws allowing members of other incorporated photographic societies to become members of the Club without paying the entrance fee. On Friday, January 10th, Professor Romeyn Hitchcock, of the Smithsonian Institute, and formerly of the Japanese Imperial Board of Education, gave, at the rooms of the Club, a lecture on "Japan," illustrated by the optical lantern. Some of the slides were of scenes that had never been photographed—in fact, several of them had never been seen before by a foreigner. The lecture was exceedingly interesting, and was listened to with pleasure and attention by an audience of ladies and gentlemen which completely filled the rooms. Dr. H. G. Piffard, a member of the Club, has proved that ammonia can be used as the alkali in the eikonogen developer, and that it works beautifully. A number of the members are using his formula, which is as follows:—

Boiling distilled water	..	..	1 quart.
Sulphite of soda, crystals	..	..	2 ozs. avoird.
Eikonogen, crystals	..	..	1 oz. "
Bromide potassium	..	..	8 grs.

To 1 oz. of the above solution add from 1 to 2 drops of liquid ammonia, but the latter quantity should only be used in case of decided under-exposure. From 1 to $1\frac{1}{2}$ drops will be sufficient for a properly exposed plate. Dr. Piffard says, "Instead of ammonia, from $\frac{1}{4}$ to 1 drm. of a 1 to 8 solution of carbonate of potassium may be employed. With this latter a little more density can be obtained than with the ammonia. In developing with eikonogen, it is well to carry the density considerably beyond the point that we should consider proper with pyro or ferrous oxalate, as the plate appears to lose more in fixing than with the older developers, and after it is fixed and dried its printing density is not as great as that of a pyro negative of apparently the same strength. Should an eikonogen negative prove too weak when finished, it responds very perfectly to the usual mercurial sulphite intensifier."

PAISLEY PHOT. SOC:—The monthly meeting was held in the committee-room of the Free Library on Tuesday last, Mr. James Donald on the chair. Mr. Mure showed six lantern slides

made on Alpha plates, each one of different colour. They were all greatly admired. The same gentleman also showed a number of photographs, taken some years ago, mounted on cards having bronze printing. Each one was badly spotted, which, he stated, was owing to the action of the bronze on the silver paper. Mr. Harris showed a Greenall's shutter, which, for compactness and cheapness, was strongly recommended. Mr. Morrison then gave a demonstration with Alpha paper. The lecture was most interesting; the subject being treated in a masterly style. He gave a number of hints regarding exposure and development, which cannot but be of practical use to those taking up this interesting process. He also exposed and developed four prints, each having a different exposure, in all of which he was very successful. A hearty vote of thanks was accorded him.

ROTHERHAM AM: PHOT: SOC:—An ordinary meeting was held in the Masonic Hall, on the 14th, the primary object being to enable members to exhibit lantern slides, Mr. Leadbeater undertaking to furnish a triple oxy-hydrogen lantern and accessories. The members had the privilege of introducing friends to the gathering, and there was a fairly large company present, the chair being occupied by Dr. Baldwin. The members' slides were first projected on the screen and criticised. Some of the effects obtained were decidedly pretty, but generally the productions were lacking in vigour. Afterwards, Mr. Leadbeater kindly showed a selection from his stock of lantern slides. At the conclusion of the proceedings a cordial vote of thanks was awarded to Mr. Leadbeater for his efforts.

SCIENCE SCHOOLS (S. KENSINGTON) PHOT: SOC:—A meeting was held on the 14th inst., Mr. Carrodus in the chair. Mr. Smith (demonstrator to the Eastman Co.) gave a demonstration. The new Kodak No. 2 was described, and passed round for examination, with two negatives on the Eastman Company's new films. A very good enlargement was then made on the "B" bromide paper, Mr. Smith pointing out the chief causes of failure. Several questions were asked and answered regarding the development.

WALLASEY PHOT: ASSOC:—The monthly meeting was held on Wednesday evening, the 15th inst., Mr. J. W. Gregg (Vice-President, in the chair. Messrs. C. W. Bullock, D. Kendall, J. G. Parker, F. E. Patchett, Priestley, and Dr. Webster were elected members of the Association. The decision of the Leeds society in the annual lantern competition was read, awarding the prizes offered by the Association. The first (a silver medal) to Mr. H. Wilkinson, and the second (a bronze medal) to Mr. W. Pollard, for the best and second best set of six slides from work done during season. The Liverpool society kindly sent an invitation to the members to view the celebrated collection of Mr. H. P. Robinson's pictures now on view at their rooms. After the ordinary business was finished, the members adjourned to the large room of the Institute, where there was a large gathering of members and friends, and a pleasant lantern evening was passed, opening with an exhibition of the competitive slides. The lecture was of a very interesting character, and was illustrated profusely with a fine series of views taken by the lecturer with a Swinden and Earp's hand-camera. The views consisted of the principal places of interest in Antwerp, Brussels, Rotterdam, Amsterdam, and other cities, finishing up with some humorous scenes from the lecturer's starting point, New Brighton. A hearty vote of thanks was passed to Mr. Earp for his lecture. The evening closed with a display of members' slides, Mr. C. B. Reader ably officiating at the lantern. The next meeting will be held on the 5th prox., when a demonstration on photo-printing processes will be given by Mr. Vaughan.

WEST LONDON PHOT: SOC:—An ordinary meeting of this Society was held at the Addison Hall, on the 24th January, Mr. Chas. Bilton (President) in the chair. The adjourned discussion upon hand-cameras was proceeded with. Mr. Stein, in summing up his previous remarks, said a perfect detective camera must be unobtrusive in appearance, have some mechanical means of changing plates, and at the same time be as simple as possible; the shutter must also be a good one, and work without jar or shake. In regard to the lens, he preferred one of short focus. With a 6 in. lens everything beyond 30 ft. was in focus, but it was often necessary to get nearer to the object, and with a 3 in. lens everything beyond 8 ft. was practically sharp. He used in his detective a $3\frac{1}{4}$ in. wide-angle lens by Wray, and found it worked well. Mr. Lesley Selby, in explaining the Artist's hand-camera, said that it could scarcely be called a detective, because it was not what Mr. Stein had called unobtrusive. However, all

he wished to do with it was to get views, and for that work it answered admirably, as it could be easily and quickly manipulated; moreover, it was light, though strong, and would stand a lot of rough usage. He had taken it up Scawfell Pike without experiencing any fatigue. The following question was then read, "Will the Secretary's arrangements allow any facility for discussion by the members upon the recent exhibition? The Society not having any journal, this is the only way in which the members can express their opinion." After some discussion, it was agreed that the Secretary should convene a special meeting, and notify the members the date thereof. The President said he had just been informed by the Secretary that two members of the Council, Mr. Wyndham Rickford and Mr. Garner Richardson, had presented the Society with a lantern and screen, with accessories for using the limelight. A hearty vote of thanks having been accorded the donors, the lantern was put into operation, and was found to work admirably. The slides shown, being those sent in for competition, were of great excellence, some flash-light views of the exhibition, taken by Mr. S. T. Chang, being very much admired.

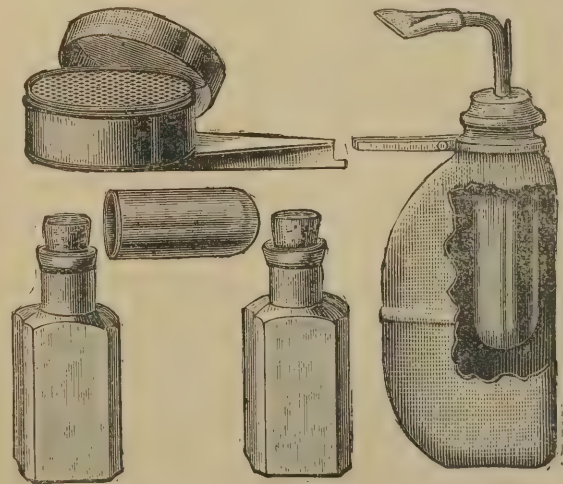
WEST SURREY AM: PHOT: SOC:—The annual meeting was held at the Crichton Hall, Clapham Junction, on the 15th inst., when Mr. Gale was unanimously re-elected President; Messrs. Davison, Lyell and Dinsford, Vice-Presidents, the Committee being again asked to continue in office, a vacancy being filled by Mr. James. Mr. J. H. James gave the subject for the evening, "Carbon Printing;" his remarks being illustrated by examples of his own work, actinometers of his own make, and one brought by Mr. Davison, and a fine collection of pictures lent by the Autotype Company. Mr. Davison, by his knowledge of the subject, largely contributed to the success of an interesting evening.

WHAT A SUBSCRIBER THINKS.—"If its present standard is kept up, I have not the slightest doubt that you will remain at the 'top' for many a year to come."

PRINTING.—A subscriber writes:—"Will the readers of the AMATEUR PHOTOGRAPHER give their opinion as to which part of England is most suitable for printing photographs?"

KEIGHLEY EXHIBITION.—A competitor, not a prize winner, thus writes us:—"Just a line to thank you for your kind remarks respecting one of my views at the Keighley Exhibition. It is the more pleasing to myself knowing that it comes from an accomplished and impartial judge."

MESSRS. SAMUEL FRY AND Co. have forwarded us a specimen of the Hibbard repeating flash lamp, which is an ingenious contrivance for holding and puffing forth in small quantities, magnesium powder into a spirit flame. The accompanying cut will



explain its various parts. The india-rubber bottle on the right contains a glass receptacle for the powder, and at the same time acts as a pneumatic expeller for the powder. The power of repeating the discharge is one which will be found very valuable in many cases to which the flash-light is applicable.

To Correspondents.

THE insertion of **QUERIES** and **ANSWERS** is attended with much labour, and it is requested that the questions asked and the answers given shall be short and to the point. No charge is made.

All communications for the columns are to be addressed to **The Editors, "Amateur Photographer,"** 1, Creed Lane, Ludgate Hill, London, E.C.

RULES.

1. Write clearly and distinctly on one side of the paper only.
2. Write each Query or answer on a separate sheet of paper.
3. Write the name and address legibly on the back of each communication, and sign all Queries and Answers with name or *nom de plume*.
4. All matters for these columns **MUST** be received by **TUESDAY MORNING'S POST**.
5. The Editors do not undertake to answer questions by post.
6. In answering Queries correspondents are requested to mention, in every instance, the *number and full title of the query* referred to.

QUERIES.

3395. Dark-room Lamp.—I am in want of a dark-room lamp. Kindly give a description of yours, and oblige.—**W. G. EVANS.**

3396. Developer for Foreign Travel.—Re answers to query No. 3329. The writers have entirely misunderstood my meaning. "Sicilian" asks why I cannot take the 10 per cent. pyro. I have not said that I "cannot;" therefore, there is no "reason why." "J. H. Montagu" says I have not mentioned "plates." My inquiry is altogether apart from the question of plates, and relates simply and solely to the consideration of "convenience." This may be a matter of small moment in Great Britain, but it is of great importance when travelling week after week in the desert, with all one's baggage on the backs of camels or mules. Will some reader who has had some experience of desert travelling give me the benefit of that experience by telling me—(1) which of the four developers I named is the most portable, (2) which is least liable to damage and destruction from the breakage of bottles, etc., (3) which is least likely to be affected by a tropical climate, (4) which will keep good for the greatest length of time under these special conditions?—**VECTIS.**

3397. Lens.—Will some one kindly say if there is any difference between a rapid rectilinear lens and a portable symmetrical lens, and, if so, explain the difference and in what way it affects their working capabilities?—**ORDNANCE.**

3398. Printing-out Opals.—If any one of the readers have been successfully working with "printing-out" opals, I should be much pleased to have some information regarding the same. Can a good tone be got readily, and where can either plates or emulsion be purchased of good quality?—**OPALITE.**

3399. Edwards' XL. Pyro and Glycerine.—I have purchased Edwards' XL. pyro and glycerine developer. Will any reader kindly give me a few hints as to its contents and use? Is the following the same?

Ammonia ('880) ...	1.	...	...	1 oz.
Potassium bromide ...		...	...	60 grs.
Water ...		...	...	3 ozs.

Pyrogallie acid ...	2.	...	...	3 grs.
Water ...		...	...	2 ozs.

I see that Captain Abney recommends the following fixing agent. Does it require the same washing as "hypo"?

Sulphite soda ...	...	...	2 ozs.
Water ...	...	...	10 "

to be used only for silver prints. The toning bath used is—

Tungstate of soda ...	...	...	30 grs.
Water ...	...	...	8 ozs.
Chloride of gold ...	...	...	1 gr.

—**E. C. L.**

3400. Repairing Kershaw Shutter.—A small hole the size of a pin point has appeared in the blind. Will any reader tell me the best way to stop it?—**PERTSHIRE FARMER.**

3401. Taking Houses, etc.—I have a wide-angle lens (7 by 5, by Perken and Rayment), and a camera with all movements, but I find it impossible to get a good picture, as I can never get the top of a building

in, and when I do it is quite out of proportion. What is the nearest one ought to be able to get to the object with the lens described? Can any brother amateur give me help?—**IGNORAMUS.**

3402. Shutters.—I intend purchasing either a Kershaw or a Thornton-Pickard time shutter, but before doing so I should be obliged for advice from any person who has had experience with either. Is the latter apt to get out of order?—**THOS. BURNELL.**

3403. Lens.—Does a quarter-plate lens include the same angle of view as a whole-plate lens of the same description?—**MUWA.**

3404. Stereoscopic Work.—As I am thinking of taking up this branch of photography, I shall be glad of any hints on the following points:—(1) Best size of plate. (2) Is the Eastman Company's new film suitable for this style of work? (3) Best form of lens. (4) Best time shutter. (5) Can two separate single views be taken on one plate? (6) Can double printing be successfully done? (7) Is there any book dealing with this subject, or are there any articles in vols. vi., vii., viii., ix., and x. of the **AMATEUR PHOTOGRAPHER**? (8) Any other hints will be gratefully received by—**MUWA.**

3405. View Meter.—Could any reader please inform me with the dimensions of the above as illustrated in page 556 in "The British Journal Almanac" for this year, as they are so poorly printed in my copy I cannot make them out?—**OAK.**

3406. Lantern Slides.—Which of the following developers—viz., pyro, ferrous oxalate, and hydroquinone—is best for making transparencies with equal results on screen? Shall also be glad for a good formula.—**ROBIN.**

3407. Oil Paintings.—I am anxious to get good negatives of old oil paintings, and should much like to get information how to proceed and what plates to use. I have had very fair results with ordinary out-of-door views, etc., with Ilford plates. My camera is a half-plate Lancaster Instantograph. Also, what is the difference in exposure between Ilford ordinary and rapid plates, taking 1 second as standard for ordinary plate on a summer day with largest stop?—**W.**

3408. Hydroquinone.—I develop with Lockyer's hydroquinone developer, and obtain a good image; but on transferring to fixing bath this almost entirely disappears, leaving nearly clear glass. Can any one kindly inform me the cause of this?—**HYDROQUINONE.**

3409. Intensifying Negatives.—I find after intensifying negatives with mercury and ammonia that they get covered more or less with minute holes, like "pinholes," though the negatives originally may be perfect. Can anybody kindly mention some means of avoiding them?—**T. L.**

3410. Tripod.—Can any one recommend me a good tripod to fit McKellen's patent bottom? Must be rigid.—**EVINGTON.**

3411. Pinholes in Negatives, etc.—Could any brother amateur oblige by telling of a good work on taking out the above? My last series of plates are full of them, and some of them have semi-transparent circular spots. They are all landscapes and architecture, so I do not find pencil suitable. I have tried colour, but it seems to get under the edges of the film and makes a mark on the print. Ought it to be mixed with retouching medium or gum? Any hints will be most acceptable.—**J. H.**

3412. Enlarging.—Can any one tell me the best and most powerful gas burner to use? The oil lamp is objected to on account of smoke and smell.—**H. H. W.**

3413. Earthenware Sinks.—Can any of the readers of the **AMATEUR PHOTOGRAPHER** inform me the best place to get photographic sink (earthenware) and stand complete for my dark-room, and oblige—**HENRY DUNDAS.**

3414. Lantern Screens.—I should be much obliged if any one would give me full instructions how to prepare unbleached sheeting to show off the views to greatest advantage. If the prepared surface could be washed merely by sponging it would be much preferred.—**S. E. C.**

QUERIES UNANSWERED.

Jan. 3rd.—Nos. 3339, 3347, 3348.

10th.—Nos. 3353, 3354, 3356, 3358, 3359, 3364, 3366, 3367.

17th.—Nos. 3339, 3370, 3371, 3372, 3375, 3376, 3378, 3379.

24th.—Nos. 3383, 3385, 3386, 3389, 3390, 3391, 3392, 3393, 3394.

ANSWERS.

3274. Magnesium Lighting.—Do not use wire at all for such a purpose. Give two or three good flashes with magnesium powder, taking care to protect lens from direct rays.—**MACHINIST.**

3277. Bichromatised Gelatine Paper.—Yes, certainly, but not so powerful as sunlight. Professional workers invariably use it, so as to be independent of fickle daylight.—**F. K.**

3283. Double Toning.—Ammonia added to hypo ought not to cause any precipitate unless some other agent is present.—**FIDO.**

3284. Clark's Platinum Process.—This querist has probably used impure chemicals, for there are many successful workers, of whom one is—**A. B.**

3289. Strops.—The stop should be placed about 2 ins. in front of the lens.—**KAPPA.**

3298. Lithographic Inks.—These being of a greasy nature cannot be used for carbon process. India ink is the right thing to employ for work on a small scale.—**JIMMY.**

3300. Bitumen.—Only sensitive to a small extent, but it is well to protect it from unnecessary exposure all the same.—**T. T.**

3306. Enlarging.—Surely this querist has access to some kind of a text-book without asking such elementary questions.—**BLOW FLY.**

3312. Enlarging.—Carbon tissue cannot be used for enlarging unless an enlarged negative be taken first. Transfertype paper could be so used. A quarter-plate negative is best enlarged to whole-plate in a camera.—**T. T.**

3318. Church Interior.—Usually the churchwarden's permission to photograph is quite sufficient, but if the vicar is a little tyrant—and there are such—he can refuse the request, for he is tenant at law of the building.—**DISSENER.**

3325. Faded Photograph.—Support the photograph in a good light, stop down your lens, use an isochromatic plate, and go ahead.—**EXPERIENTIA DOCTA.**

3381. Camera on Bicycle.—In answer to above, I can strongly recommend a spring carrier made by Walter Carson and Sons, 21, Bachelors' Walk, Dublin. I have had one in use some months, and find it highly satisfactory.—**O. T. C.**

3382. Framing.—"D. O." had better write to Mr. G. Rees, 41, Russell Street, Covent Garden, for his little book of instructions on frame-making, which also includes catalogue of everything the amateur picture-frame maker requires. I believe Mr. Rees makes no charge for it.—**FESTINA LENTE.**

3382. Framing.—You should read "Winter Work" on Frame-making, in the **AMATEUR PHOTOGRAPHER**, commencing Jan. 17th, 1890; it really gives you a first class idea about it.—**LESLIE BAKER.**

3384. Magnesium Light.—The fault is in the lens. If you had a good Optimus, or Wray's Rapid Rectilinear, you could take with 6 ins. at most. Lancaster's Instantograph lens is too slow for really quick work.—**HURROO.**

3387. Print Changing Colour.—Fix your prints in hypo 3 ozs., water 20 ozs., for 15 minutes.—**HURROO.**

3387. Prints Changing Colour.—The ammonia is the cause of the prints changing colour, and sulphite of soda will not improve them. The prints will always keep their colour if the following formula is used:—

Hypo-sulphite of soda 2 ozs.
Water 12 "
Immerse in this solution, and let them remain for twenty minutes; after this thoroughly wash them. None of my prints have altered their colour after I found out the above method.—**LESLIE BAKER.**

3388. Single Lens.—I have some experience of Taylor, Taylor, and Hobson's rapid view lens, and can strongly recommend it. For landscapes I generally use f/13 stop, which is large for a single lens, and get beautiful definition with it to the very corners. The lens I think is one of 12 in. equivalent focus, but I think a half-plate lens would do remarkably well with a long-extension quarter-plate camera.—**J. RAWLINS.**

3388. Single Lens.—You cannot do instantaneous work with any single lens; it will never be satisfactory. Get a Wray's R.R.; his lenses cannot be beaten at the price, and the R.R. is the best for general work.—**HURROO.**

EDITORIAL.

NOTE.—Anyone requiring an opinion upon photographic apparatus, plates, etc., must give a number or initial for identification, as in no case will makers' names be inserted in this column.—**EDS. AM: PHOT.**

R. T. Y. C.—Camera excellent, films have been reported to stand fresh air. Certainly have a shorter focus lens with you. A hand-camera would be very useful, and we should say the one you name would answer your purpose. We are publishing your letter, and no doubt some of our readers will give you their experience.

THOS. L. BUCK.—We shall be pleased to publish a letter from you on exhibition or other matters, but we cannot take up the controversial subjects appearing in the columns of our contemporaries. If you wish to have the matter thrashed out, write generally upon the subject, and in your own name. (1) The one you name was the last. (2) Our publishers can supply you; write them.

F. A. BRIDGE.—Why don't you advertise them? **E. LLOYD EDWARDS.**—The negative shall be looked up and sent you. The firm have so high a standing that we should not have recommended them had not we been quite certain that their goods would give you satisfaction.

E. B. BOWDON.—Not worth your while to save them unless you have a large quantity. If you have, write us again.

C. D. D.—We will have a search made, and give publicity to what we may find; the apparatus has been popularly described in some of the society papers. Thanks for calling our attention to the subject.

J. LESTER.—Certainly one of the best in the market.

MRS. BROOKHUIS.—Proper entry forms will be sent you on application and receipt of 1d. stamp. A small photograph has quite as much chance of being awarded a prize as a large one.

H. JUDSON.—No doubt Mr. Smith will reply.

MAJOR J. BRIDGE.—Your query is inserted, and will, we trust, be answered.

ORDNANCE.—We do not quite understand the drift of your question; but if you mean that you want to copy pictures to their full size with a 14in. lens, your camera must be capable of opening out to double that length, namely, 28 ins.

STAINED NEGATIVES.—Probably caused by impure developing dish. Try rubbing with linen rag and turpentine.

H. H. W.—Thank you for your prints. Both are good, and show that you know how to develop a clean negative.

T. F. B.—(1) Not important; a swing-back is sufficient for all contingencies likely to occur. (2) Lateral movement only occasionally wanted; back or front immaterial. (3) Turntable saves weight and extra piece to carry; it will not get shaky if well made. (4) No advantage. (5) You can do good work with all named, but the best are more valuable if one wants to re-sell or exchange. (6) About 9 ins., but look at the maker's list, and get a wide-angle lens as well. (7 and 8) You must really refer to the text-books for an answer to these. (9) He is a reliable maker, and you can trust his work. (10) Not to be named in the same category. (11) We know no such worker.

A. B.—You might copy a print under such conditions with lamps close to the copy in about ten minutes. You do not say whether you want to do this work, or a portrait, or an interior. No portrait could be taken under such conditions, and an interior view of a room would take two or three hours.

HAMISH.—The spots look like damp, and we can offer no other explanation in ignorance of the conditions under which it has been kept.

E. D.—There is not much to choose between the two, but perhaps B is a little more compact. (2) We prefer D, but it is not fit for general landscape work, as its tendency is to distort the foreground, and reduce the distance to very small dimensions. Thank you for your good opinion.

ARGOEY.—Dip in fresh hypo for a minute, and then, without washing, into a 10 per cent. solution of ferricyanide of potassium. The immersion in the latter must only be momentary, and the picture must immediately be put in a dish under the tap.

ELENBOROUGH.—The picture is a very pretty one, but would have been much better if you had allowed the figures a little more room on your plate, and if you had kept your camera level.

M. H. N.—You evidently want a lesson from a good master to put you on the right track; it would be quite impossible to do so in this column. Stop down your lens, and give longer exposure to your negatives, they are not sharp enough. Then paint over all that part of them that you do not want to be visible with Bates' black varnish.

C. B.—We fancy that the marks are due to precipitated iron, owing to your chemicals being in some way contaminated. Why not try pyro in preference? You would not regret the change.

TYBO.—We have not used the instrument in question. We may say further that a camera of this type is quite unsuitable for a beginner, who would do far better to practice carefully with the ordinary old-fashioned kind. A child is taught to walk before it is allowed to skate.

G. E. MATTHEWS.—A would be the quicker lens, and B perhaps the better for portraiture. Either lens will, however, answer your purpose, and your best plan would be to try for yourself which one meets your special requirements.

DR. B.—There is no advantage in the use of the instrument named, except that it is slightly more compact than the older pattern.

ZERO.—If we had the choice we would far rather use a single lens made for the purpose, for a tool can always be relied upon if it has been devised for the work in hand. So you will see that the advantage lies rather in the contrary direction to that implied in your question.

A. S.—An over-exposed plate will often appear black under full development, and its film will appear thin after fixation. A wide-angle lens requires a shorter, not a longer camera. The marks on your print are probably caused by the developer leaving certain parts of the plate unwetted. Remedy: Mix up a larger quantity. Thank you for your kind remarks.

F. H. D.—Nothing so good as glass for the purpose. About two minutes, but you must make such a thing the subject of experiment.

ZINKENITE.—A very first-class lens. We can with every confidence recommend it.

H. H.—No. 1 is a good camera. No. 2 is not, we think, yet in the market. No. 3 we have not yet seen; but you can rest assured that the gentleman

named would not speak well of it did not the camera deserve all he said. No. 4 is a useful lens, and well worth the price asked for it.

MISS BROOKING.—You should not have used an instantaneous plate for a portrait study. You had now better intensify with bichloride of mercury, and then treat it with a 10 per cent. solution of hydroquinone. See Wall's "Dictionary of Photography," page 94.

MISS BURNS.—Why did you not send us earlier report? No charge is made, and we are always pleased to receive any particulars having reference to the work done by amateur photographic societies.

HENRY G. RIDGWAY.—We have your letter, and will write you. Note correction in spelling of your name.

CHARLES S. MYERS.—Thank you very much for your kind letter. We can quite recommend plate No. 1. Have heard the same opinions expressed about the plate you have been using. No. 2 is a good all-round cheap plate.

WM. BROWN.—No. 1 is thoroughly reliable. No. 5 extremely portable. Thanks for your good wishes.

MATT-SURFACE PAPER.—Will the writer of a short article on this subject which has reached us, send name and address and oblige?

CORNSTALK.—You cannot enter "Three Tours." Read conditions carefully. "Slurs, Slander, and Sling" are three pretty strong S's, but, in our opinion, well merited. Will write you about the Prize Tour Competition in a post or two.

ST. STEPHEN'S VICARAGE.—Cannot decipher signature. Certainly, enter your Fonth Bridge photographs. By our new plans competitors have ample time to enter for the monthly competitions. Enlargements are not eligible, or prints from enlarged negatives. Why not give us a call? Send post-card, and we will keep appointment.

W. H. SHIRLEY.—You shall hear in a day or two if we can let you have any prints. Might send you some slides. Will send wire if stay at Royton is prolonged to the evening or next Tuesday.

G. FLOSS.—Have corrected and inserted your advertisement free of charge.

D. CAMERA.—We should be quite satisfied to use A for detective work, and do not see any advantage in using the higher priced lenses.

F. A. B.—Send us a stamped envelope, and we will give you the name, but have no intention of giving the man a gratuitous advertisement.

J. W. CHARLESWORTH.—Sorry to hear of the cause of your inability to reply. We will make enquiries about the photograph.

G. H. STAFFORD.—You do not appear to have advised us as to the award. We can trace no report of your exhibition. Your communication might certainly have been couched in more courteous terms. Send us copy of catalogue and judge's award.

J. S. T.—Most of the exhibitions are advertised or announced in the columns of the AMATEUR PHOTOGRAPHER. If you will name any particular exhibitions, we will endeavour to procure entry forms, etc., for you.

W. E. HENRY.—Thank you for the prints. They thoroughly deserve all that has been said of them.

A. REBURN.—We are seeking your prints, and when found will write you; they have been mislaid.

FREDERIC T. CORBETT.—You cannot do better than buy a copy of "Collotype and Photo-Lithography," by Julius Schnaus, published at 5s.; our publishers will supply.

FRANCIS TATE.—We must admit that we hardly see what the man is driving at, but do not hold ourselves responsible for the opinion of our correspondents. You will note that the matter is taken up by one of our subscribers. Glad to hear that you have "for nearly three years read the AMATEUR PHOTOGRAPHER with the greatest of pleasure and profit as there is always something fresh to be learnt from its columns." We hope you may long continue to be satisfied with our efforts.

DETECTIVE.—We take no notice of anonymous letters. Your questions are absurd.

W. H. USSHER.—Cannot make out what you want to know. Why not take up photography proper?

MR. JOHN STABB and Mr. J. Ellis write to us with reference to the rabbetting tool described and illustrated in Mr. Hepworth's article on Frame making of Jan. 17th. The first named tells us that the tool can be purchased of Messrs. Mellhuish, Fetter Lane, and the other gentleman says that he bought one of Messrs. Syer and Co., 45, Wilson Street, Finsbury. Messrs. Syer have sent us their catalogue of tools, which contains sundry contrivances which have been devised for frame-making.

Sale and Exchange.

RULES.—Four penny stamps for twelve words or less and one for every additional three words, must be enclosed with each advertisement, together with the name and address of the sender, which must be paid for, and sent to Hazell, Watson, and Viney, Ltd., 1, Creed Lane, Ludgate Hill. A single figure, or group of figures undivided by letter, space, stop, or words counts as one word; compound words count as two words.

DEPOSITS.

Deposits for goods to be forwarded on approval may be made with our Publishers, who will hold the amounts deposited until they are satisfied that the transaction has been executed to the satisfaction of both parties. Cheques and Post Office Orders, should be made payable to Hazell, Watson, and Viney, Ltd. A nominal charge 1s. is made of whether a sale is effected or not.

N.B.—Trade Advertisements cannot, under any circumstances, be inserted in this column. Such advertisements can be inserted elsewhere at the Trade Scale, which may be obtained on application to Parry and Crawford, 1, Creed Lane, Ludgate Hill, London, E.C.

"Amateur Photographer."—AMATEUR PHOTOGRAPHER, April, 1888, to February, 1889, and May, 1889, to date; what offers in half-price view lens, or cash?—Bex, 53, Bury Road, Wood Green.

AMATEUR PHOTOGRAPHER, from 5th March, 1886, to 24th August, 1888 (two missing); also Winter and Summer Numbers for 1886; price 15s.—E. J. Reynolds, Ley Farm, Ilford.

AMATEUR PHOTOGRAPHER, vols. iii. to ix, bound, 11 SOCIETIES' REPORTERS, first vol. "Photography," 12 "Year Books" and "Almanacks," about 50 journals, news, etc.; want offers, photographic materials.—No. 45, AMATEUR PHOTOGRAPHER Office.

Cameras.—Half-plate 84s. Instanto set (Underwood's 1888), new; bargain, 60s.—2, Hawthorn Villas, Slad Road, Stroud, Glos.

Camera, quarter-plate (by Robinson, London), damaged; price 10s. 6d.; cost 21s.—Deane, School House, Ronall, Fleetwood.

Rouch's patent half-plate tourists' camera, fitted with Hare's changing box for 12 plates; £5.—G. E. Franklin, Rickmansworth.

Camera Bellows.—Camera bellows. Amateurs requiring such should apply direct to the manufacturer. Every description made. Manufacturers supplied at reduced prices. Stamp or reply.—J. Johnson, Back 131, Irving Street, Birmingham.

Cameras, etc.—New modern long-extension half-plate camera, three double improved slides, square bellows, stereo arrangement, of the best London make and finish.—Eggar, 5, Chandos Road, Stratford, E.

Whole-plate Sands and Hunter's camera and shutter, with Dallmeyer's 10 by 8 R.H. lens, sundries; for sale; particulars.—W. Charles, Duns, N.B.

Dark Slides, etc.—Three Tylar's metal slides and Lancaster's two-fold mahogany tripod; for two mahogany slides for Instantograph.—61, King's Road, Southsea.

Set of six half-plate Tylar's metal dark-slides, equal to new; 18s. lot.—F. W., 15, Canal, Salisbury.

Gas Jets, etc.—Pair of mixed gas jets and six-way dissolver, bargain, the lot 25s.; also six Tylar's quarter-plate metal dark-slides, 7s. 6d.; approval; deposit.—Geo. Elly, The Stores, Uttoxeter.

Kodaks.—Kodak, containing film for 80 exposures, only been used once, in perfect condition; £4.—Can be seen at the Stereoscopic Company's, 110, Regent Street, W.

For sale, an Eastman's Kodak, with 50 films not used, quite new, only once charged; price £3 15s.—Apply, L. F., Denny Court, near Uxbridge.

Lanterns.—Archer's Photinus, complete in case, four-wick patent lamp, 4 in. condensers, new last November; price, cash, £4; bargain.—Harrison, Registrar, Warrington.

First-class jappanned tin binomial lantern, with best compound condensers and double achromatic fronts, scarcely used, pair safety jets and star dissolver, complete; price only £3; few slides, including some Newton's hand-painted, cheap.—G. Franklin, Rickmansworth.

Lantern, etc.—Hughes' Pamphengos lantern, perfect condition, 40 slides; will exchange for half-plate set.—O. Naylor, Batley.

Lantern Slides.—Lantern slide apparatus, for making slides from negative; cost 16s. 6d.; price 7s. 6d.—Bentley, Low Baildon, near Leeds.

Lenses.—Fair Dallmeyer's new stereoscopic lenses, working at about f/5; price £4; approval on deposit.—L., 6, Suffolk Terrace, Gardener's Lane, Putney, S.W.

12 by 10 landscape lens, 15 in. focus, 15s.; or exchange quarter camera or quarter rectilinear lens.—Ernest Webster, Driffield.

Exquisite Silver-ring rapid Rectigraph lens (by Lancaster), quarter-plate, has Iris diaphragm, and is fitted with instantaneous shutter working between lenses, pneumatic ball, etc., perfect, and good as new; only 30s.—Box 1, Mallow.

Lenses, etc.—Splendid cabinet portrait lens, f/4, sacrifice 35s., cost treble; retouching desk, perfect,

takes any size to whole plate, bargain, 5s.; 8 by 7 interior background, 7s. 6d.; 8 by 6 graduated, 5s., both canvases; 5 by 4 Optimus R.R., Tyler's window shutter, fitted, 24s., new.—Cooke 49, Chapel Street, Rugby.

For sale, whole-plate R.R. lens, revolving diaphragm, splendid definition, cheap, approval, deposit; also exchange 9 in. burnisher and lamp, as new, cost 35s., for quarter-plate Instantograph camera, lens, and slide.—Evans, Minthead, Somerset.

Excellent Lancaster half-plate instantaneous lens Iris diaphragm, shutter, never used; 20s.; cost 30s.—H., 7, Crescent, Taunton.

Half-plate Instantograph lens, with shutter and Iris diaphragm, good as new; 20s.—Walsh, 179, Walter Street, Blackburn.

"Photography," from commencement to Dec., 1889, 59 numbers, clean, complete; also "Anthony's Annual;" best offer has them.—No. 10, Albion Street, Mills Plating, Manchester.

Photographic Sundries.—Shew's patent camera clip, Phoenix shutter, Sargeant's patent shutter, box view-finder, ebonite view-meter, circular level, Deconun's photometer, four Eastman half-plate film holders, black morocco leather bag with lock, lined green baize, for half-plate camera.—W., 43, St. James's Road, Kingston-on-Thames.

Sets.—Half-plate Instantograph set, complete, four slides, carriers, case, printing frames, as new; 80s.—Edward Mason, Askridge, Bedale.

Quarter-plate set, including camera, of best movements, three double slides, two lenses, single and double, instantaneous shutter, and light stand, perfect condition; price 50s.—S., 11, Tavistock Street, W.C.

Camera, half-plate, 1889 Instantograph, by Lan-

caster, in very finest order, and guaranteed genuine in every part, fitted with reversing back, leather bellows and double extension, Instantograph lens and shutter, Iris diaphragms, double dark slide, quarter-plate carrier, and double folding mahogany tripod, latest improvements; approval; 74s.—Ousins, 5, Stanley Villa, Bruce Grove, Tottenham.

Slides.—Would exchange four slides, "Bite bigger, Billy," for four British scenery; approval.—Jaquiss, Cradley, Staffs.

Tripod.—Sliding ash camera tripod, best make, suitable for half-plate to 10 by 8; cost 25s.; price 15s.—W., 43, St. James's Road, Kingston-on-Thames.

WANTED.

Cameras.—Hand-camera, cash; approval required.—A. Blackburn, 3, Belgrave Crescent, Eccles, Manchester.

International half-plate camera or quarter set; exchange six vols. "Casket of Literature," complete; offers.—L. Fry, Greenfield, Oldham.

Half-plate bellows camera and slide, must be cheap; or will exchange 13 in. focus 10 by 8 view lens.—A. Gillies, Novar, Rosshire.

Half camera, good make, cheap, for cash.—Particulars, Arthur Hardy, Hartlepool.

Wanted to purchase, half-plate camera, good make; price and particulars.—Weatherby, Eiton Street, Hanley.

Fallowfield's Fac's detective camera.—Apply, Camera, Observer Office, Claremont, Hastings.

Good whole-plate camera, in exchange for nearly new half-plate, with three double slides.—Jones, Enfield House, Uffculme, Devon.

Camera, etc.—Quarter-plate camera and lens, or

good magic-lantern; exchange handsome red setter dog pup, eight months old.—Patrick Moore, Ross-carbery, Ireland.

Camera, lens, etc.—5 by 4 first class camera, R.R. lens; cash by deposit.—L. Davidson, 79, South Circular Road, Dublin.

Hand Camera.—Hand camera, not less than 5 by 4, in exchange for Rouch's dark tent for changing or developing plates, at or from home, with tank, tray, tripod, and chemical case.—Henry Irving, Darwen, Lancashire.

Lenses.—10 by 8, or 12 by 10, good make, symmetrical, rectilinear, or Euryscope lens, cheap, for cash.—Arthur Hardy, Hartlepool.

Half-plate R.R. lens, in exchange for good violin, dated 1721.—Trigg, 31, Bernard Street, Southampton.

Lens, etc.—Half plate Wray, Beck, Taylor (Iris), Optimus R.R., or Optimus Euryscope, cheap.—Batty, Denman Drive, Liverpool.

Negatives.—A few good half-plate view negatives, cheap, for a charitable purpose.—Particulars to S. Barclay, 232, Mill Street, Liverpool.

Roll-Holder.—Eastman roll-holder, to fit 7½ by 5 camera; state lowest price.—B., care of Sergeant Brady, R.I.C., Ballymena, co. Antrim.

Sets.—Good half set, no lens, several slides, tripod, accessories, cheap.—86, Albert Road, Croydon.

Good half-plate camera, lens, dark slides, etc., complete.—Spencer, Surveyor, Crawshawbooth, near Manchester.

Shutters.—Quarter-plate instantaneous and time shutter, 1½ in. hood.—Ploss, 309, Liverpool Road.

Thornton's time and instantaneous shutter, diameter 1½ in., on approval.—M., 26, Highbury Quadrant, N.

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NOTICES TO SUBSCRIBERS.

Subscriptions must be prepaid.

UNITED KINGDOM	Six Months, 5s. 6d.	Twelve Months, 10s. 10d.
POSTAL UNION	" 6s. 6d.	" 12s. 0d.
INDIA, CHINA, ETC.	" 7s. 9d.	" 15s. 3d.

NOTICES AS TO ADDRESS.

PUBLISHING DEPARTMENT.—All letters containing Subscriptions, Orders, Remittances, SALE AND EXCHANGE Advertisements, or other business matters for the *Amateur Photographer* are to be addressed to the Publishers, HAZELL, WATSON, AND VINEY, LD., 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

NOTE.—SALE AND EXCHANGE Advertisements, at the charge of Three Words for One Penny, can be received as late as WEDNESDAY MORNING.

ADVERTISEMENT DEPARTMENT.—All communications respecting TRADE Advertisements in the *Amateur Photographer* are to be addressed to PARRY AND CRAWFORD, 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

NOTE.—Trade Advertisements are received up to Tuesday morning.

EDITORIAL DEPARTMENT.—All Literary Contributions, Queries and Answers, Photographs for Competition or Criticism, Books or Apparatus for Notice or Review are to be addressed to the Editors, *Amateur Photographer*, 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

NOTE.—To ensure insertion all Communications should reach the Editors on Tuesday.

CORRESPONDENCE SECTION.—Anyone wishing to communicate with Contributors can do so by forwarding such Communication in stamped envelope under cover to the Editors, *Amateur Photographer*, 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

THE FORTH BRIDGE.

In view of the interest taken by all engineers, students, and others in the Forth Bridge as a triumph of engineering skill, the proprietors of the *AMATEUR PHOTOGRAPHER* have pleasure in offering the following Prizes for the Best and Second Best Set of Four Photographs:—

First Prize	Silver Medal and £1 1s. 0d.
Second Prize	Bronze Medal and 10s. 6d.

Photographs must be sent in on or before **Monday, the 10th of March**. This date will permit of photographs of the Opening Ceremony, which is to be performed by H.R.H. the Prince of Wales on the 4th of March.

The proprietors will require the use of the negatives of the prize photographs. If any competitors are willing to leave their prints in the hands of the Editors of the *AMATEUR PHOTOGRAPHER*, they will have pleasure in circulating them amongst the photographic societies.

All Competitions to be addressed:—"Forth Bridge Competition," The Editors, *Amateur Photographer*, 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

"AMATEUR PHOTOGRAPHER" MONTHLY COMPETITIVE PAPERS, 1890.

The following Prizes are offered for competition every month:—

Three Prizes of £1 1 0 each.

Three Prizes of 0 10 6 each.

And Three Certificates.

The Papers must not exceed 1,000 words; and those which are awarded Prizes will be published in the *AMATEUR PHOTOGRAPHER*; others will be selected, and will be arranged for publication in the

"AMATEUR PHOTOGRAPHER'S ANNUAL."

Contributions are to be upon the subjects as list given below; and in order to make the matter more interesting, it is requested that each competitor shall give his *personal experiences*. It is intended that each subject shall be written up by a specialist for the *ANNUAL*, and the latest information given. All MSS. must be received not later than the

28TH OF EACH MONTH.

Subjects.	
28th February	Apparatus.
28th March	Optics.
28th April	Action of Light.
28th May	Exposure.
28th June	Plates and Films: Their Development and After Treatment.
28th July	Printing, Toning, Mounting, and Finishing.
28th August	Artistic Effect and Composition.
28th September	Outdoor Instantaneous and General Photography.

All MSS. to be addressed to the Editors, "*Amateur Photographer*," 1, CREED LANE, LUDGATE HILL, LONDON E.C.

"AMATEUR PHOTOGRAPHER" MONTHLY PHOTOGRAPHIC COMPETITIONS.

The Proprietors of the *AMATEUR PHOTOGRAPHER* will offer, Monthly, two prizes, consisting of a

SILVER AND A BRONZE MEDAL (WITH RIBBON AND CLASP)

for the best and second-best photographs sent in to each of their Monthly Competitions. The subject of the Competitions will be as follows:—

LANDSCAPE OR SEASCAPE	Feb. 14 ... June 14.
LANDSCAPE WITH FIGURE	Mar. 14 ... July 14.
GENRE OR FIGURE STUDY	April 14 ... Aug. 14.
INSTANTANEOUS PHOTOGRAPHS, ANIMALS, ETC.	May 14 ... Sept. 14.

Only one print is to be sent in; the negative of the prize pictures shall be at the service of the Proprietors, and all the prints sent in shall become the property of the Proprietors.

In addition to the Medals being given, the prize photographs will be reproduced in the *AMATEUR PHOTOGRAPHER*.

All photographs for any of the above competitions must be received by the

FOURTEENTH DAY OF THE FOLLOWING MONTH,

and as received will be acknowledged in the columns of the *AMATEUR PHOTOGRAPHER*.

Competitive prints are available for exhibition before Photographic Societies after the 1st of each month.

The prints will all be numbered, and when sent to societies, will be accompanied by a book for criticism. It is hoped that the President or other official will give a note stating the general opinion of the members of the Society.

Entry forms on receipt of stamped addressed envelope.

THE AMATEUR PHOTOGRAPHER

Editors:—CHARLES W. HASTINGS & T. C. HEPWORTH, F.C.S.

TELEPHONE
No. 1645.

Offices: 1, Creed Lane, Ludgate Hill, London, E.C.

TELEGRAPHIC ADDRESS,
"VINEY, LONDON."

VOL. XI. No. 279.]

FRIDAY, FEBRUARY 7, 1890.

[PRICE TWOPENCE.]

OUR VIEWS.

"To hold as 'twere the mirror up to nature."—Shakespeare

We are very pleased to, at last, be in a position to announce that the "Home Portraiture" Special Number of the AMATEUR PHOTOGRAPHER will be published on the 1st of March. There will be upwards of fifty illustrations in the body of the book, selected from the work of as many competitors, and the following whole-page supplements:—

- From the First Prize—"Children of the City" (autotype), Alex. Keighley.
- „ Second „ "Meditation" (Woodburytype), Alfred Stieglitz.
- „ Third „ "Day Lilies" (colotype), Mrs. Brian Hodgson.
- „ Fourth „ "Little Lord Fauntleroy" (colotype), A. R. Dresser.

The book will be got up in a far better style than any of the previous Special Numbers of the AMATEUR PHOTOGRAPHER, and its publication cannot fail to teach workers in photography through the examples illustrated. We would remind our readers that the conditions of the competition permitted the entering of figure or genre subjects, taken either indoors or out-of-doors. They will therefore find, in addition to portraiture, many such subjects reproduced.

Our publishers will be glad to receive early orders. Copies sent by post will be packed in boards or cases, in order to protect them from the rough usage they too often have received at the hands of the postal authorities.

* * * *

THE prints for the next AMATEUR PHOTOGRAPHER Monthly Photographic Competition, "Landscape or Seascape," must be received on or before the 14th inst. Those who have not received entry forms should make early application.

* * * *

WE would call the attention of our readers to the "Monthly Competitive Papers," and remind them that the first subject is "Apparatus." They are asked to give their experience of any piece of apparatus used in connection with photography. The papers sent in to this competition must not exceed 1,000 words in length. We are sure that there must be a large number of our readers who

will be glad to embrace the opportunity which these "Competitive Papers" in conjunction with the "AMATEUR PHOTOGRAPHER'S Annual," afford of giving the benefit of their experiences to their fellow-workers. MSS. must be received on or before the 28th inst.

* * * *

SLIDES for the AMATEUR PHOTOGRAPHER "Lantern Slide Competition" should be sent to us as early as possible, in order that they may be carefully registered preparatory to being judged. Arrangements will be made to exhibit as large a number as possible at the Crystal Palace Photographic Exhibition. As soon as the arrangements have been definitely determined upon with the Managers, the dates of the lantern shows will be announced.

* * * *

WITH the last number of the PHOTOGRAPHIC SOCIETIES' REPORTER a very exhaustive index is inserted. Binding and reading cases have been prepared, and can be obtained of the publishers. The first volume of the REPORTER contains upwards of 500 pages, and although far from fulfilling the aims of the promoters, is nevertheless a valuable record of the work of photographic societies during the year 1889. It is to be hoped that officials and members of societies will do their best to assist in making the REPORTER a complete record of all that is done in connection with their own particular societies, and so render help for the benefit of the community at large.

THE PHOTOGRAPHIC SOCIETIES' REPORTER is deserving of the support of all workers in photography, as through the publication of it the promoters earnestly hope to be able to establish a complete record of the advance of the science of photography and its progress in its relations to art. We note from a brief glance at the index that more than 120 societies have sent up their reports during the year, but not with the same regularity as the meetings have been held. We also note that many papers read are given *in extenso*, and that not less than 300 subjects affecting photography are treated of in its pages—surely a sufficient inducement to both professional and amateur photographers to subscribe 6s. PER ANNUM, especially as that sum includes

TWELVE CABINET PORTRAITS of presidents of photographic societies, all more or less having a reputation for work done in connection with the advancement of photography. We have, of course, a very direct interest in asking our readers to subscribe to the REPORTER, and do not hesitate to say that the embarking upon the publication of such a journal was a step which few, if any, of our competitors would have had the boldness to tackle. It has faults, and we will do our best to rectify them; but as was said in the first number, the REPORTER must be, to a great extent, what members of photographic societies make it. May we then urge upon our readers to contribute their part, and accept our assurances that no effort will be wanting on ours to make the REPORTER more useful in the future than it has been in the past.

* * * *

THE *Athenæum* says of the PHOTOGRAPHIC QUARTERLY:—"The articles are clearly written, terse, and on subjects of the day. . . . The frontispiece of the second number, 'Harmony,' by J. E. Austin, is one of the most perfect pictures we have yet seen produced by photography. The tone and sentiment are alike admirable. There is a future for this new quarterly if the first numbers be maintained." Such a criticism is most encouraging, coming as it does from the highest and most critical literary authority in the world. It will prompt us to greater efforts to collect together the *best* work of the *best* men for publication in the QUARTERLY, which the *Photographic Art Journal* is kind enough to say "adds a dignity to photography."

* * * *

WE have for a long time had in contemplation the offering of prizes for artistic photography the work entirely of ladies. Latterly ladies have timidly entered the lists in competition with the sterner sex, and their work is much of it of a high artistic standard, and we intend therefore to offer some inducement for them to enter into the AMATEUR PHOTOGRAPHER "First Ladies' Competition." We shall give as prizes gold, silver, and bronze medals, of the smaller series, mounted as brooches, and shall include on the bench of judges the services of a lady artist and a lady photographer. The rules and conditions will be published in the first issue in March, and all photographs will have to be received on or before the 31st of May. The photographs will probably be exhibited at our offices during the month of June. Ladies desirous of entering for this competition are asked to forward their names and addresses and an addressed stamped envelope, in order that the rules, conditions, declaration, and entry forms, when ready, may be sent to them.

* * * *

ON all sides we hear that the Exhibition at the Crystal Palace will be a huge success. The movement deserves support, and the annual show there has become a necessity to photographic life. All the novelties are to be seen, and although actual orders may not be booked by exhibitors, still the opportunity is given to those requiring apparatus to inspect the various manufactures and designs, the orders following at a later date as a natural sequence.

* * * *

LAST week Mr. Clinton Dent delivered a lecture at the Working Men's College, Great Ormond Street, on "Mr.

Donkin's Photographs of the High Alps." The lecture was illustrated by dissolving views. Mr. Dent said that sixty years ago very little had been done in the way of photography in the High Alps. A few sketches had been taken, but they had caused a great deal of labour. It was in 1879 that Mr. Donkin saw what might be done in that region. Mr. Donkin had secured photographs of glaciers under great difficulties, and he always said that the "Upper Snowfields" were more worth exploring than some of the jungles and the slopes of Africa.

* * * *

OUR editorial comments upon Exhibition matters have brought forward a letter from one of our subscribers. We hope our readers will not refrain from expressing their views upon "our views." The conditions of the professional classes should be much more stringent. At the present time we venture to say that in no case are professional exhibits the individual work of the exhibitor; how absurd it is then to propose to place such work on a level with that exhibited by amateur photographers! The AMATEUR PHOTOGRAPHER has purified photographic exhibitions of all the tricks and dodges which obtained prior to 1885, so far as the work of amateurs is concerned. Why do not trade papers follow on our lines and do the same for professional photography, instead of carping and sneering at that which they have had no hand in, *i.e.*, the elevating of honest work, which has resulted in the advancement of photography as a science and art, and in bringing forward the latent talent of amateur photographers all over the world.

Who should write about the medal craze? Not our contemporary *Photography*, for they take traders' medals by the dozen, and when honest judges have thrown out competitors' work as worthless, will allow traders to give consolation medals to unsuccessful competitors. But what can be expected from the staff of a paper that competes for the medals given by themselves, and whose editor and sub-editors accept traders' medals?

We shall continue to award our medals for merit and for work that is entirely that of the exhibitor. But we will not from this date consent to place the AMATEUR PHOTOGRAPHER medals at the disposal of any Exhibition Committee, where *any* class is open alike to professional and amateur photographers, and we are quite certain that the bulk of the ladies and gentlemen who make up the army of amateur photographers will stand by us and refrain from entering their work in the same class and for the same prizes as professionals. It is well known that many professional photographers do not hesitate to pass the work exhibited as their own, through the hands of (1) operator, (2) worker in dark room, (3) retoucher, (4) printer, (5) mounter, (6) frame maker.

We call it dishonest, as dishonest as the specimens exposed in the "art photographer's"—save the mark—window. Let our contemporary *Photography*, who will not, we suppose, have the audacity to claim to be the journal of the amateur photographers, set itself to clear away the dishonesties of the professional photographer, and leave the amateurs to arrange their own exhibitions, draw up classes and conditions, and award for the work exhibited, such prizes as the means at their disposal will permit, without wasting their money upon the too often meretricious work of professional photographers.

It will be remembered that last year the Photographic Society of Great Britain held their first annual dinner, a function to which ladies were admitted, and one which was a very pronounced success. This year's dinner is to be held on the 10th inst., under the genial presidency of Mr. James Glaisher, F.R.S., the veteran President of the Society.

* * * *

THE work shown at the Brixton and Clapham Society's show last month was, on the whole, very satisfactory, especially in the Enlargement Class, and the Society is to be congratulated on the success of its first effort in that direction. The lantern slides, however, were a rather weak section, and showed considerable difference in merit, though the slide which took first prize, a sunset view on the sea beach, was a most effective and well executed piece of work.

* * * *

THE AMATEUR PHOTOGRAPHER Bronze Medal offered to the Darlington Photographic Society, for their members' competitive exhibition, has been awarded to T. Howlett, Darlington. The judges at the above exhibition were J. B. Payne, Newcastle-on-Tyne; A. L. Seavenson, Durham; and Edgar E. Lee, Cullercoats.

* * * *

PHOTOGRAPHY ON ZINC.

THE appearance of a daily illustrated newspaper is an event for which the public have been for some time prepared, for they have been accustomed to notice in certain pushing evening journals, and on rare occasions in the dailies—once or twice even in the *Thunderer* itself—that the aid of the artist has been called in to give a zest to the letterpress. This has only been done, until quite recent times, on rare occasions, or when any particular object might be served by it. Thus a rough portrait of Lefroy, the murderer of Mr. Gold, which appeared in the *Daily Telegraph* many years ago, led directly to the arrest of that villain. And these pictures must be rough, for they are necessarily printed with such celerity that they cannot be nursed up to that perfection which is possible with more delicate work. The paper, too, of a daily newspaper is not of a character to show up a cut to the best advantage, and is very different in texture, surface, and general appearance to that which is used for the leading illustrated weekly journals.

It goes without saying that a daily journal containing illustrations would be next to impossible without the aid of photography, and to the uninitiated the curious part of the business is that the camera is not used to take the original picture, but in the work of turning that picture into a block ready for the printing press. But where is the engraver? it may be asked. The engraver is literally nowhere, for under the new condition of things he and his work are not wanted. They have been superseded by the greedy camera, which seems to step in to do other people's work in all branches of art and science.

A most extraordinary part of this new process of block production by photography, is its extreme quickness. We are told on good authority that on the new premises of the *Daily Graphic* the arrangements for performing this work are so perfect that a sketch handed in by the artist can in the short space of two hours be reproduced in block

form ready for the printing press. The sketch must necessarily be of a suitable kind for reproduction, and must partake of the character of a pen-and-ink drawing, that is to say, it must be expressed in lines. There are, of course, processes for the reproduction of half-tone pictures, and sketches done in washes of tint like sepia drawings, but these take much longer to execute, and when produced are not suited to hurried printing. We are at present, therefore, only considering the method of reproducing line drawings, or, at any rate, drawings which are expressed in lines or dots, or perhaps a combination of both. It is known in the trade as the zinc process, which is the short for zinc-photography, for the printing surface which it yields is of zinc.

The original drawing is executed in very black ink of a special kind, or sometimes india ink is used, although that medium has a tendency to dry on the fine pen used for the work, and in that way leads to delay. Ordinary Bristol board may be used to draw upon, but those who aim at the best work use a chalk-surfaced paper which is made for the purpose, and upon which the most delicate line can be made, a line with clean sharp edges such as it is difficult to trace on any other medium. This drawing is handed to the photo-engraver, with a note appended to it as to the amount of reduction it is to be subjected to, for it naturally gains in delicacy by being reduced in size, and it is almost the invariable custom for an artist to rely upon this in executing the work.

The photo engraver's first business is to take a negative of the drawing, and this he does by the light afforded by the electric arc, for were he to depend upon daylight his occupation would be often gone. The negative must be reversed, and this reversal is brought about during exposure by the use of a mirror, silvered on the surface to avoid double reflection, which is attached to the hood of the lens at an angle of 45°. The camera, therefore, is not pointed direct at the drawing to be copied, but at right angles to it. The wet process is adopted for the production of the negative because it gives, with the least trouble, a negative in which the lines are perfectly clear, and the blacks really opaque. This is a very necessary provision in a negative intended for this "process" work, one which did not fulfil these conditions being altogether useless.

The zinc plate now comes into requisition. It is sensitised with bichromatised albumen, and exposed under the negative, with the result that all parts of it through which the light can get are made insoluble. These parts are, of course, the clear lines representing the lines of the original drawing. Development consists in dissolving away all the remainder of the sensitive coating, leaving on the zinc plate the picture expressed in lines of insoluble albumen. These are further strengthened with an acid-resisting compound, and the metal plate is placed in a rocking dish where it is exposed to the action of dilute acid. The exposed portions of the metal—that is, the parts not protected by lines—are quickly eaten away, leaving the lines in relief. When this etching operation is concluded, it merely remains to mount the zinc picture, type high, on a block of wood, and it is ready for the press. Such are the bare outlines of the modern process which turns, as by a magician's wand, a drawing into a metallic block—a process which has at last been instrumental in the establishment of an illustrated daily paper in London.

Letters to the Editors.

EXHIBITIONS AND THE MEDAL CRAZE.

SIRS,—May I ask the privilege of a little space to say a few words in regard to exhibitions, and the movement in some quarters to unite the amateur and professional classes, or rather to abolish the amateur classes altogether? I think it does not require a very great effort to see that the movement comes from the professional exhibitors.

Is it because, having secured a goodly number of medals each themselves, they are now wishful to almost banish such awards, and consequently make them much scarcer, apparently trying to forget that the most valuable medals, and by far the greatest percentage to number of exhibitors, have been given to the professional classes?

I admit that certain classes might go, professional as well as amateur; but to take the dictum of certain self-appointed dictators I think we shall decidedly object.

The great scare about the medal craze, etc., would lose its chief *raison d'être* were the professional classes excluded from exhibitions (not that I necessarily contend they should be).

I should think it would be interesting to see what percentage of awards to number of exhibitors have been given to amateur and professional classes respectively these last two or three years. The less said about the medal craze by our professional friends the better.

Then again we are told that the present system of medal awards is very detrimental to photography as an art. This statement I most emphatically contradict, and challenge any man to prove. When, I ask, in the history of photography, was the standard of art therein so high; and why? Simply, sirs, because of the *present* system of awards, which brings out, with some prospects of recognition, the dormant, or rather what would be dormant, artistic powers and genius of our country; and I maintain that ere a few more years have run, the present system of awards remaining, photographic art will forge ahead with leaps and bounds, hitherto unknown in all the glorious history of photography, and this by and through the instrumentality of the amateur and amateur's medals.—Faithfully yours,

THOMAS L. BUCK.

January 20th, 1890.

* * * *

PHOTOGRAPHY IN AMERICA.

SIRS,—The annual election of officers of the Mystic Camera Club took place on Tuesday evening, January 7th, when the following officers were chosen for the ensuing year:—President, Geo. E. Davenport; Vice-President, A. F. Boardman; Executive Committee, Messrs. Geo. E. Davenport, A. F. Boardman, Geo. L. Stone, E. H. Balcom, B. D. Bourne, and E. Lawrence Jenkins; Secretary and Treasurer, Geo. L. Stone (1, Ashland Place).

Active preparations are being made by the club for a public exhibition in February of the past season's work of the organization.

British correspondence solicited.—Yours very truly,

Medford, Mass., U.S.A.,

Geo. L. Stone (Sec.)

January 16th, 1890.

* * * *

DISCS OF GLASS AS CONDENSERS.

SIRS,—I have been looking anxiously for an answer to "Treble X's" query, No. 3,370, in the AMATEUR PHOTOGRAPHER of January 17th, from some one who has succeeded in making a condenser in the manner referred to, a similar query of my own some six months ago having also remained unanswered. Failing this, it may be of some use to him and others to relate my own experiences in endeavouring to make a lantern for enlarging purposes. I procured two 10 in. clock glasses, cemented them to two flat discs of glass, filled them with glycerine, and, as I am no turner, mounted them in a square oak frame by means of parallel grooves on the inner faces in such a manner that the two convex surfaces nearly touched. I carried them off to my dark-room, put a candle behind, and examined the result. This was woefully disappointing. The illumination was very unequal, a ring of bright light enclosing a darker space in the centre. This was due doubtless to the (optically) faulty curva-

ture of the glasses, which were much more bent at the edges than towards the centre, this portion being nearly flat. Then the focus was very long, about 16½ in., and the illumination in consequence feeble. I acted on the supposition that the illuminant should be placed at the equivalent focus of the combination, i.e., in such a position that the issuing rays are parallel, or nearly so.

In spite of this failure I cannot help thinking the plan is feasible, if only glasses of proper curvature could be obtained. I imagine they should be segments of a sphere of longer or shorter radius, according to the focal length required, but I am no optician, and should be very grateful to some cleverer brother of the art for definite information as to—

(1) The proper form of the glasses; if spherical, then the radius of the sphere which would give, say, 9 in. focus, or less, if the curvature would not then be excessive. It would not be difficult, I imagine, to get glasses bent to the required shape.

(2) The proper position of the illuminant.

(3) A good cement to use for uniting the glasses. I used shellac dissolved in rectified spirit, but this took a long time to harden.

Thus baffled in the construction of a condenser, I tried ground-glass for distributing the light evenly over the negative, and constructed a suitable lantern of wood to hold two duplex lamps. But I found that at least two ground glasses were necessary for perfectly even illumination, to the great diminution of the light, and then the intense heat of the lamps nearly fired the roof of the lantern, though this was protected by a zinc plate with half an inch air space between it and the roof.

So altogether I must confess myself fairly nonplussed and stuck in the mud, and shall be very grateful for help in my difficulties, for I have time to spend and some constructive skill, but have not cash to spare for an expensive enlarging lantern, while daylight is not to be had in my dark-room.—Yours faithfully,

W. L. GROVES.

January 31st, 1890.

* * * *

QUERIES AND ANSWERS.

SIRS,—Being only an amateur, I get much help from the Queries and Answers column, but think I should often get much more if those who are kind enough to send answers would be more explicit, viz., not think because they know so well, that others do who have not the privilege of meeting in clubs, etc. For the same reasons I should be glad if some of our learned brothers would favour us with a few short chapters on cause and effect of the developer on the film of a negative, the difference between a few of the many kinds of plates, the names of which are bewildering, viz., gelatino-bromide, chloride, isochromatic, and so on, so that we should understand a little more what we are doing; instead of being so mechanical. Knowing better and using a little brains, we may get less failures and better work. We working men want something after the style of the articles on Frame-making.—Yours, etc.,

A WOULD-BE IMPROVER.

* * * *

TRANSFORMATION OF FORMULÆ.

SIRS,—I agree entirely with your correspondent, Mr. Nash, as to the desirability of transforming from metric to English weights, and *vice versa*, otherwise than by literal translation, or rather conversion, but, thinking that I can suggest a handier method than the one he proposes, I venture to bring my plan forward.

Now, let us say that the metric formula (as it generally does) commences with 1,000 grammes, or cubic centimetres, which is the same thing. Put against that *any* suitable quantity of ounces, say 40 ounces = 19,200 grains, and then take the same percentages for the English formula as are taken for the metric formula. For example:—

1,000 c.c.	..	..	..	..	40 ozs. = 19,200 grs.
100 grammes	=	10 per cent.	=	4 " "	1,920 "
20 "	"	2 "	"	"	384 "
5 "	"	½ "	"	"	96 "

The same method may be used for conversion from English, although it is not quite so simple, and there is also the difficulty that English formulæ generally end with "make up to," so that

the percentage is not easily found, but I do not see many occasions on which we shall require to reduce from English to metric formulæ. This would rather be a problem for the "other side" to work out, if there be, forsooth, one more brave Gaul or Teuton left who will venture to risk his brains about our, to him, bewildering arrangements of weights and measures.—I am, Sirs, yours truly,

WATERLOO.

* * * *

STAINS.

SIRS,—May I, through the medium of your valuable paper, invoke the kindly aid of Mr. Bothamley, or some other scientific gentleman, in elucidating the following point.

Having used it, say, eight or nine times, my hot-bath platino-type developer, although quite clear, becomes badly discoloured by iron from the paper. And although I do not notice any falling off in tone of prints developed in such a bath, yet, should any oxalate run over the back of a print (to avoid which is almost impossible) it leaves a yellow-brown stain, distinctly visible by transmitted light, which no amount of soaking in acid will ever remove. Doubtless, the moral is obvious; but to be continually throwing away developer adds to the cost of what is already a sufficiently expensive process.

By allowing most of the developer to pass off as steam, and the addition of water, I find that the solution, while far from colourless, is certainly less yellow.

Information as to any means of getting rid of the iron without impairing the neutrality of the oxalate, will greatly oblige, yours truly,

J. T. TAUNTON.

* * *

COST OF DRY PLATES.

SIRS,—Your correspondent "Auld Reekie" cannot see why half-plates cannot be made at 13s. per gross or less. Perhaps I can enlighten him. In the first place, the quality of glass such as is now used by the best makers cannot be purchased for less than 6s. per gross, and the cost of good emulsion, rich in silver, to coat that quantity, allowing a little for waste, will cost 8s., boxes and wrappers, 6d.; this, without labour, brings the cost to 14s. 6d. Now, the usual price for half-plates is 2s. 3d. per dozen, and on that a considerable discount has to be given to the trade, so I do not think that the makers are making big profits. If it had been so, how is it that several manufacturers, some of whom had attained a fair reputation for plates, should have given up business after considerable losses? There is at the present time more than one firm who had they known the difficulties and worries connected with dry-plate manufacturing would never have commenced, but having invested their money and gained experience, do not now wish to sacrifice both, although the profit at present prices is very small. Another important fact must be taken into consideration. There is scarcely any business where there is so much waste, however great the care taken, such as broken glass, occasionally bad batches of emulsion, and defective plates; all these increase the cost.

I may just add that I have had great experience in all these matters, but am not in any way commercially connected with any business.—I remain, yours truly,

EMULSION.

* * * *

SIRS,—Would you kindly allow me to correct an error in my letter *re* "Cheap Plates," which appeared in the AMATEUR PHOTOGRAPHER of the 17th ult., showing a profit to the makers of 9s. per gross of half-plates. This is wrong. Taking the emulsion at 4s. per gross, as stated in my letter, to this must be added the price of the glass plates, say 11s. per gross, making the cost, for material only, 15s. per gross; then add labour and contingencies, 25 per cent. (not too much), 3s. 9d., making a total cost of 18s. 9d. per gross, instead of 13s. 6d., as stated by "A Country Cousin."—Apologising for the trouble I have caused, yours truly,

AULD REEKIE.

* * * *

HYDROQUINONE AND INTENSIFICATION.

SIRS,—If any of my comrades of the camera have under-exposed plates by the dozen, and under-developed them by the score in the early days of their novitiate, their experiences have been similar to mine, and I would suggest that if they set any store upon their sickly phantom pictures, they should treat them as follows: Bleach thoroughly for five minutes in a solution made up of $\frac{1}{4}$ oz. chloride of ammonium, $\frac{1}{4}$ oz. bichloride of

mercury, and 10 ozs. of water (Mr. Jerome Harrison's formula), and darken afterwards with a hydroquinone developer. They will be able to transform their nebulous negatives into brilliant pictures. For eighteen months I courted intensification, and tried as many processes. My most calamitous experience was with sulphite of soda as a darkening medium, and I should like to fine the author of the article in a contemporary which suggested it at least 40s., for my valuable negative—and it was really valuable to me, for I cannot replace it—was irremediably ruined, the image blackening up in one moment, and disappearing off the face of the plate and this earth the next. And it did this in spite of my watchfulness, as I knew the sulphite to be a strong reducing agent.

A ferrous-oxalate developer I found worked well, but the darkening was too gradual.

Ultimately I tried hydroquinone, with the result that I have resuscitated all my early sickly plates, and they are now as brilliant and rich in printing capacity as the most critical amateur could desire.

A. E. VENN.

* * * *

SLOW PLATES.

SIRS,—On page 52 of "Photo. News Almanac" for 1890 is an article by Captain Abney on "Gradation." He says: "In some plates I have seen twelve squares which differed in density; in others as many as eighteen. This means that light only sixteen times the intensity of the light which just gives a deposit, gives the greatest density on a plate, whilst in the other it means sixty-four times the intensity of light is necessary. As a matter of fact it will be found that the range of gradation in slow plates is inferior to that in the more rapid plates." Is the word inferior a misprint for superior? If not, why should slow plates always be recommended for copying and purposes in which great contrast and gradation are necessary? Your reply would be greatly valued.—Very truly yours,

FREDERICK BENTZ.

NOTE.—Perhaps Capt. Abney will reply.—Eds. A. P.



A LUTON SOCIETY.—By the kind invitation of Mr. and Mrs. A. Carruthers a meeting of amateur photographers was held at the "Bury," on Monday evening last, to consider the advisability of establishing a Photographic Society for Luton and district. It was unanimously resolved that a society be established, and that Cyril Flower, Esq., M.P., be asked to accept the presidency. Those present formed themselves into a committee to arrange for another meeting to be held at the Coffee Tavern, Cheapside, Luton, on Saturday next, February 8th, at 6.30 p.m., when they hope that all amateurs (ladies and gentlemen) of the town and neighbourhood will be present.

MR. EDISON'S LATEST INVENTION.—A telegram from Orange, New Jersey, to the *New York Herald* says:—"Edison has been developing his great idea of making use of photography as an adjunct to the phonograph in order to bring a speaker's personality before the eye. The result of Edison's experiments has been a wonderful machine. In front of the speaker are placed two small machines, one a phonograph and the other an ingenious piece of mechanism by which photographs of the speaker are taken in succession with enormous rapidity at intervals of from one-eighth to one-twentieth of a second, and both these machines are at work silently recording both the uttered speech and the personal appearance of the speaker at each fractional part of a second. The result thus obtained may be sent to any desired point, and the photographs thrown on a screen by an ingeniously contrived piece of mechanism. Thus the exact appearance of a speaker, with all his gestures and play of features, is exactly reproduced, while the phonograph simultaneously delivers the speech. The interval between the successive photographs is so infinitesimal that the screen picture is apparently a living one, moving, gesticulating, and apparently uttering the words which in fact are spoken by the phonograph. The greatest difficulty experienced by Edison in his experiments was the synchronisation of the two instruments, so that the utterances of the phonograph should exactly coincide with the gesticulations, but this was finally overcome, and the experiments were crowned with perfect success. What the commercial value of this invention may be is yet to be decided. It cannot fail to be intensely interesting as an exhibition feature, but whether it will fill a niche in the everyday life of the world is another question."

Winter Work.—XVIII.

By T. C. HEPWORTH, F.C.S.

ON FRAME-MAKING.

(Continued from page 71.)

OAK, like other wood, is porous and greedy of moisture of any kind. The first operation, therefore, is to give it a coating which shall act as a support for the gilding medium to be afterwards applied to it. Strong parchment size—which, like everything else required in this work, can be bought at the gilder's material shops—is the substance to use after it has been melted, with the addition of a little hot water. This size must be strained, and painted well into the wood with a hog-hair brush—the work being

done not too quickly, so as to avoid any frothing of the liquid. After being so treated, the frame is set aside to dry thoroughly, after which it will be improved by being rubbed down with the finest glass paper, and sized once more. Again the frame is dried, and now it is ready for the coat of medium which is to hold the gold-leaf to its surface.

This medium is known to the trade as oil gold size, and it is applied to the wood with a flat camel-hair brush. After this coating of gold-size, the frame must be set aside in a place quite free from dust for a period ranging from twelve to twenty

hours, the time being governed by the quality and age of the gold size, and also to some extent by the weather. For during this time the varnish-like fluid gradually evaporates, and it must be allowed to do so until it has reached just that point of "tackiness" when the gold will adhere to it best. When this point is reached, the gold-leaf—previously cut *en bloc* with a pair of

sketches in my catalogue, both of the pictures themselves, and also of their frames, in cases where the more ordinary patterns were departed from. These sketches I have reproduced here, and it will be seen that many of the designs are so simple that they can very readily be adopted by the amateur framemaker. In many cases I have shown how the beauty of the frame can be enhanced by preserving the grain of the wood, and this grain is far more noticeable if the wood be gilded than if it be left bare. There is certainly, in the case of oak, no choice between the two extremes—at least, in my humble opinion. Varnish, or polish, in any form is simply execrable, and if the wood be left entirely unprotected, it soon gets dark and grimy. In the case of a simple beading, this does not much matter, for a little rubbing with glass paper will soon give it a new surface; but if the frame be more ornate in character, this mode of treatment is not applicable.

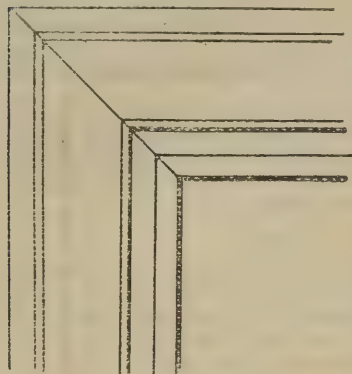
Fig. 8 was remarkable for being made of rough dark-stained wood without gild-

ing. It enclosed a large picture of a cottage interior, and the subject was here again in accordance with the simplicity of the frame. Fig. 9 is an unusual kind of combination; the broad part of the frame being of dark wood bevelled back towards the wall, and the ornamental beading being made of metal, and having the appearance of oxydised silver. Fig. 10 exhibits another specimen of a pattern in gilded oak with a carved ornament near its outer edge. An effective pattern for a wholly gilt frame is seen at fig. 11; and No. 12 is a gilt oak frame with raised diamonds upon it. This frame

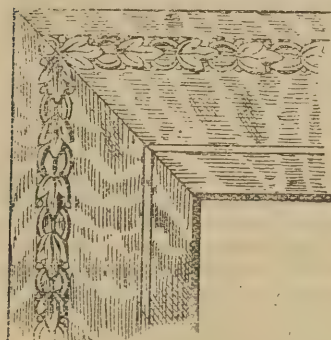
is more eccentric than effective, and as it had no possible reference to the subject of the picture, seemed to be meaningless in design. Fig. 13 is a frame made of deal and stretched with coarse canvas, which is afterwards coated with glue and gilded as already described. Figs. 14 and 15 are both plain oak frames with hollowed out panels.

These I copied from pictures in the Grosvenor Gallery, and they were certainly effective. They could be made by building up pieces of oak, by any one having a slight knowledge of the use of tools.

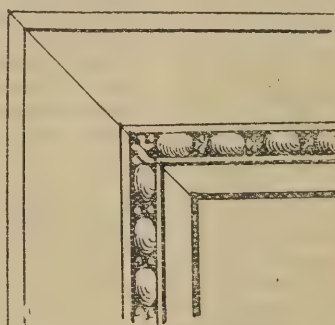
In frame-making we must guard against over-elaboration, and must constantly remember that, after all, the work must be subservient to the picture which it is destined to contain. This over-elaboration was the fashion in days gone by, so much so that it was not uncommon to hear an ignorant critic make remarks about the beauty of the frame, and paying very scant



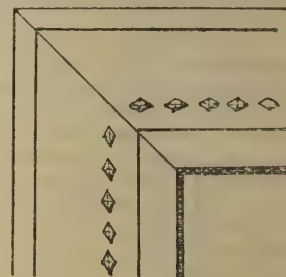
(8.)



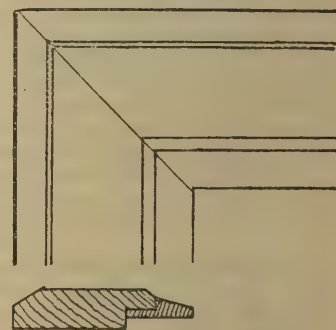
(10.)



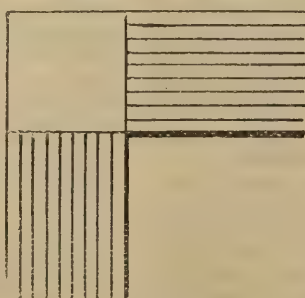
(9.)



(12.)



(13.)

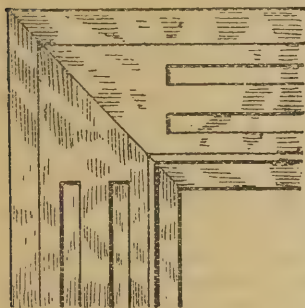


(11.)

scissors to the best size to suit the moulding to be covered—is pressed on bit by bit, each piece overlaying the edge of the other until the entire surface is covered. Now let the frame rest for a few more hours, and lightly dust off the superfluous gold with a clean dry cloth. The operation is concluded by giving the gilded surface a coating of *clear* parchment size, which protects the delicate surface from all attacks of contaminated air, etc.

At a recent exhibition in London, I was interested in noticing the new styles of frames which many of the artists had adopted, and I amused myself by making thumb-nail

attention to the picture itself. As we have already seen, there is a tendency now-a-days to go to the opposite extreme, and to frame a picture with such ostentatious simplicity that the verge of eccentricity is continually reached.



(14.)

Many amateur carpenters are very skilful in fretwork, and useful treadle machines are now sold at a low price, which execute the work with ease and rapidity. Fretwork can be introduced as an adjunct to ordinary frames, and is effective if well done. But I think that it should only be used for portraits, and in imitation of those handsome Italian curved openwork frames which have long been in use for oil paintings. The best way to employ fretwork is as an appendage to an ordinary mitred narrow frame, which should have on its outer edge a rebate cut so that the fretwork ornament can be sunk therein, and so brought flush with the original moulding. The design should be bold in outline, and unlike in character to the fine work which used to be commonly employed for the front of a piano. It should be of such a nature too that the mitred corners will come well together, and not give the idea of a break in the pattern where the join occurs. Perhaps on the whole it is better to use fretwork for little fancy portrait-frames, which are supported easel-fashion on the drawing-room table, and stand among other knickknacks of a similar character. Under the same category come frames which are covered with coloured plush. These are easy enough to make, for they can be cut out of soft pine, and any little irregularity which may be at first apparent is covered up and hidden by the plush. The best cement to use in order to make the material adhere to the wood is a mixture of flour-paste and glue, the former correcting the brittleness of the latter. If glue be used alone the contraction of the plush has a tendency to strip it from its support.



(15.)

THE HUMAN FACE.—Sarony, the well-known photographer of New York, referring to the fact that, in the majority of human beings, one side of the face is very much unlike the other, attributes the principal cause of this to the habit of sucking the thumb in childhood. When baby's chubby little thumb is in his mouth, the forefinger presses the cartilages of the nose on one side, and by degrees completely out of shape. Some time ago, a lady took her two daughters, both of whom were in their teens, to be photographed. Sarony at once noticed that while the elder girl had almost perfect features, the younger one's nose was depressed on one side, and the lips protruded so much that they showed the teeth. The photographer guessed the cause, but determined to verify his conjecture, and so diplomatically conducted the conversation as shortly to elicit the fact that the younger sitter had been in the habit of persistently sucking her thumb until she was three years old. Sarony, in relating this incident, declares that there would be many more symmetrical features in the world if mothers would put a stop to thumb-sucking in childhood.

The Complete Photographer ;

OR,

THE MODERN RECREATION OF CONTEMPLATIVE MEN.

By H. P. ROBINSON.

CHAPTER III.

The Dark-Room.

PHOTOGRAPHER.—You are now no longer an angler, but a pupil, and as such I will address you. We will begin at the bed rock, and work upwards. One of the soundest foundations for success in photography is the possession of a good dark-room. It should be roomy, convenient, well appointed, and, if possible, away from the house. I would call it the laboratory, but that sounds too pretentious and scientific for a place where the study of science is not intended. If you want to go in for severe science, you should set up a separate establishment on another part of the premises, for the two pursuits do not accord together. The perfumes of science do not always agree with dry-plate delicacies. A gelatine plate in the presence of some of the emanations of science becomes naturalistic at once, and fogs.

PUPIL.—Then a proper dark-room is as necessary as a camera?

PHOTOGRAPHER.—Quite. It puzzles me now how so many manage to develop in a closet or cupboard, with a basin for a sink and a jug for a tank, although I have had considerable experience in awkward corners. Changing plates, which is about all that a practised photographer finds necessary now, away from home, is bad enough, but it is nothing to the inconveniences we used to experience with wet plates.

PUPIL.—Like Punch's footman who asked, "What are taxes?" I should feel inclined, if I had not confessed to some knowledge of photography, to innocently ask, "What are, or were, wet plates, and how are they used?"

PHOTOGRAPHER.—You may do so without displaying any very great ignorance, for the collodion process is almost completely forgotten, and is seldom used except in what may be called the industrial processes. It is still used for enlarging and for the production of printing blocks, and also in some of the vitreous enamel processes. But to return to dark-rooms. I have developed large plates in a coal-hole, but the most awkward experiences I have had have been in a state-room of a yacht in a gale of wind. It was difficult enough during fair weather; even then the lantern and slides would vanish with a clatter into the dark. And when all the light is shut out of a cabin the ventilation suffers and the thermometer rushes up to extraordinary heights. It is better to avoid these gymnastics, and do all you can at home in your own comfortable dark-room.

PUPIL.—How do you manage when you are absent from home for some weeks? In a book I read to-day I see it is insisted on as a strict rule that plates should be developed "never later than the day on which they are taken."

PHOTOGRAPHER.—This strict rule is the strictest pedantry, and could not have been written by anyone who had much real knowledge of the art. It would, of course, be of advantage to know that you have got a good negative while you are on the spot, but you may to a great extent insure this, when the subject is worth it, by exposing a duplicate. Then the chances are that in the difficulties of developing away from home negatives may be spoiled, and certainly you would not be able to give their treatment the calm consideration every plate deserves. Then again it is well to have your subject in your mind when you develop

but your memory ought to be good enough to bring back the peculiarities of the subject the moment it begins to appear under the developer, and give you time to consider the treatment. The sort of remark you quote is usually given to show how very particular and precise the author is, but I prefer the common-sense of photography, and knowing that a gelatine plate will keep perfectly for months, and being also a pretty good judge of light, as every photographer should be, I never develop away from home. I should mention, however, that I always take the precaution to make two exposures on good subjects or if there is a chance of a figure having moved. Then I cannot imagine anything more delightful than shutting yourself up in a well-ventilated, well-appointed dark-room, with some dozens of exposed plates, shuffled like a pack of cards so that you do not know what is coming next. This is a confession I did not mean to make, for it is a most pernicious practice which I hope you will not imitate, but I cannot deny myself the delights of surprise, although I sometimes have a scuffle to save a negative I should have begun to develop better if I had known the subject and learnt all about it from my note-book. So that until you have had great experience I must insist on your putting a number on the back of each plate and making full notes of the exposure, the subject, and other particulars made on the spot.

PUPIL.—And the dark-room?

PHOTOGRAPHER.—You do well to remind me of my subject occasionally. As I think I have said, keep the dark-room clear of the house if possible. Here is mine, as you see, built at the bottom of the garden. It was originally built of nothing but Willesden paper. I had had it up for four years, and noticed no signs of wearing. It was really waterproof and very strong. I have seen six inches of snow on the roof for several days, but in June last we had an extraordinary storm of ice, some pieces of which measured $2\frac{1}{2}$ inches in diameter. The paper was apparently unhurt, but a month or two afterwards it leaked, and examination showed that the sharp-pointed lumps of ice had broken the surface, so I had the place covered with corrugated iron. The paper makes a capital lining. It is a shed, as you will see, 14 ft. long, 12 ft. wide, and 6 ft. 6 ins. to the eaves, with a gable roof. The space is divided into two rooms; the first which we enter is used partly as a carpenter's shop and partly as a printing room, the inner one is the dark-room. This arrangement gives us the opportunity of having two doors between the light outside and the one that must be actinically dark—an arrangement that has many advantages. The window at the narrow end of the room, facing north, is 2 ft. square, for I like plenty of light of the right quality, containing white glass; when I want to change plates or develop, I slide this frame, which runs in grooves, and is glazed with ruby glass over which is tacked a piece of canary yellow calico, and this gives me a good safe illumination on ordinary occasions; but if I want to use Isochromatic plates, or if the sun shines on the window, I draw this other slide, which also runs in grooves, and contains another sheet of ruby glass. You should also be provided with a lantern for night work. Some photographers prefer to work entirely by artificial light, because it is more constant than daylight, but I see no advantage in it, and it is certainly more trouble to one who only uses his room occasionally. Under the window is a Doulton's sink. These sinks are a vast improvement on the wooden lead-lined or pitched sinks formerly in use. Indeed, I cannot imagine anything more perfect. The water and gas are laid on from the house. On each side of the sink is a bench table 20 ins. wide, filling with the sink that end of the room. The bench is also continued at the same height round the room, with the exception of the door space and south end.

Under the bench to the left of the sink is a rack for dishes ranging from 26 by 20 downwards. For the larger sizes I use composition; for the smaller, ebonite and porcelain, but there is a dish called granitine which is superseding porcelain. It is a golden rule to appropriate one dish to one purpose only, and to paint the use for which it is employed on the bottom of each. Hyposulphite of soda is never allowed to enter the dark-room, but is used when required in the outer room. In the south corner is a cupboard used for storing solutions which are better kept in the dark, such as gold toning solutions and those used for developing platinotype prints, also another for the stock of chemicals. In every available place there is a shelf.

PUPIL.—It is packed like the cabin of a ship.

PHOTOGRAPHER.—Yet I try to keep it as clear as possible, and everything not in actual use packed away in its place. There is nothing more obstructive than muddle, dirt, and confusion. Besides the large window, there is another on the east side, high up, for ventilation, and a ventilator in the floor. It will not be necessary to mention here the minor details of the contents of the dark-room; we shall come to them as we use them by and by. Outside the shed are fixed several stagings made of battens; these are very useful for holding printing frames, dishes, or anything for which out-door tables may be required. I have not called much attention to the contents of the outer room, as they are not strictly photographic, but you would find the carpenter's bench very useful, not only for its legitimate use, but as a printing table. Every photographer at times must do a bit of carpentering, and should possess a tool box and bench. You will notice that the hypo and its dishes are kept out here, and that the roof affords ample accommodation for packing cases. This room to the right, 12 ft. square and partly roofed with glass, is just added. It is very useful for printing in bad weather, and I find the extra space adds greatly to comfort. You must have had enough of the dark-room. Our next discourse shall be in the light.

(To be continued.)

A LOST COLOUR DISCOVERED.—Artists and scientific men have long wondered about the beautiful "azzurrino" found in the ruins of Pompeii. M. Fouque, the mineralogist, with a mixture of silicate of copper and of lime, has now obtained the brilliant crystalline "azure" of Pompeii. It is a tint perfectly unchangeable, and identical with the Alexandrian blue which was known to the Ptolemies, and imported into Italy in the first years of the Christian era.

ULSTER AMATEUR PHOT. SOC.—We have just received a copy of the report and accounts of the above Society, and are glad to find that the year's work shows a good record. We may mention among many contributions that have been given, the following:—Opening discussion on "The Development of Lantern Slides," by the President (Professor Letts, Ph.D., F.R.S., F.C.S.); "Notes on a Tour in Norway," with lantern illustrations, by Mr. J. Stelfox; "Photo-Gleanings at the British Association Meeting," by Mr. J. Brown; "A Photo-Cycling Tour in Norway," with lantern illustrations, by Mr. W. Swanston, F.G.S. The Hon. Secretary, Dr. Cecil Shaw, M.A., 14, College Square, East Belfast, will be glad to hear from any gentlemen desirous of joining the Society.

MR. W. JEROME HARRISON, F.G.S., the Science Demonstrator of the Birmingham School Board, has just received intimation from the Secretary of the Geological Society that the Council have awarded him the proceeds of the "Barlow-Jameson Fund," in recognition of his "valuable contributions to geological science," and he is invited to attend the anniversary meeting of the society on 21st February next to receive the award. The former recipients of the "Barlow-Jameson Fund" were—in 1882, Dr. James Croll; 1884, Baron von Ettingshausen; 1886, Professor Leo Lesquereux; and in 1888, Dr. Johnston-Lavis. The income of the fund is "to be applied every two or three years, as may be approved by the Council, to or for the advancement of geological science."

Rambling Papers.—IX.

BY W. K. BURTON.

ENAMELLED PRINTS.

FROM the consideration of matt-surface prints it is not unnatural to pass over to a consideration of prints having a surface as much different from the "matt" surface as is possible. By enamelled, I do not here mean merely burnished or treated with what is known as "encaustic paste;" I refer only to prints that have the extremely high gloss that is due to stripping from a surface of glass. They have, in fact, a surface that is the exact counterpart of a surface of glass and that may be said to be the same. These prints are generally incontinently condemned by people who have, or pretend to have, artistic taste, yet they remain favourites with a great many, and there can be no doubt whatever that they have a certain sort of beauty of their own. It may be beauty of a low or vulgar type, but it is beauty nevertheless. I do not, however, intend to enter into the question of the merits or the demerits of enamelled prints for pictorial purposes. It is a question concerning which different persons will hold different opinions, whatever I were to say on the matter, who am by no means qualified to speak with authority. It is of a purely technical use of enamelled prints—a use not, I believe, as generally known as it should be—that I propose to speak a little.

All who have tried copying an ordinary print, of pretty well any kind, will know how difficult it is to get even a fairly good copy, and how still more difficult it is to make a good enlargement. There are two causes of failure; one is the tendency that there is to the reproduction of the grain of the paper in a very pronounced degree, the other is the loss of half-tone, and the tendency to run into a photograph with nothing intermediate between pure whites and deep blacks.

It is probable that the majority of your readers have never had occasion to copy, or enlarge from, an enamelled print; but those who have, and who understand the principles of lighting prints to be copied, must have noticed how much better results they got than when copying any other kinds of prints. In the first place, on account of the glazed surface, there is no tendency to reproduction of the grain; in the second place—for what reason I am unable to say—there is less tendency to loss of half-tone.

All this must, I say, have been observed by any one who has had even a little experience in the copying of enamelled prints, but my friend K. Ogawa was, I believe, the first to use enamelled prints in preference to transparencies as a means of reproducing negatives, and of making enlarged negatives.

All are aware, I suppose, that the most common way of making reproduced negatives is to make a transparency from the negative to be reproduced, and to make a negative from this again; and that the way in which enlarged negatives are made is to make a transparency first (either of the size of the original negative, or of the desired enlarged negative, in the first case by contact, in the second case in the camera), and to make an enlarged negative from this. Now Ogawa found that he could get actually *better* results by copying or enlarging an enamelled print, than by making a transparency first, and it need scarcely be said that both the trouble and the expense are less.

In copying prints on albumenised paper—the commonest kind of print that has to be copied—there are two things that must be guarded against, even to get a tolerable negative. One is reflection from the glaze of the surface, the other is the shadows cast by the minute elevations of the

grain of the paper. Reflection is readily overcome by lighting from the side, but lighting from *one* side only strengthens the shadows just mentioned and, consequently, the grain. The theoretically perfect lighting for copying such a print is all side light, but comes not from one side only, but equally from all sides, and in practice it is necessary to get a lighting as closely approaching this as possible.

In copying enamelled prints there is only one thing to contend against, and that is the reflection, a thing that can, as I have just said, be guarded against by merely lighting from the side. In fact, it is only necessary to place the print and the camera in such positions that, looking from the camera, no reflection is visible from the surface of the print.

I imagine that a print enamelled by any process might be used, but Ogawa makes prints on gelatino-citro-chloride paper specially for the purpose of reproducing negatives or of making enlarged negatives. It might be supposed that the tone of the print would have a great effect on the quality of the negative got from it. It is not, however, found in practice that this is the case; but Ogawa, on the whole, prefers a brownish tone.

It has often been recommended in the photographic journals that a photographer, whether amateur or professional, should always make a transparency from any negative that he specially valued, so that, in case of its destruction, he might be able to reproduce it. Now the practice of the photographer whom I have mentioned above, is just as good as this, and is more simple. He makes a print on gelatino-citro-chloride paper, and stores that. It is not even necessary to enamel it at the time. In fact, it is probably better not to do so, as the delicate enamel surface is liable to injury. If at any time the original negative gets broken, or for any other reason he wishes to make a second negative either of the same size or larger, he can take the print, and enamel it by preparing a plate of glass, wetting the print, squeegeeing the print on it, drying and stripping.

The actual operation of enamelling a print is described in almost every hand-book of photography, and it would be a waste of space to re-describe it here. A hint on the only part of the process that is likely to be troublesome may, however, not be out of place. I imagine that most who attempt to produce enamelled prints, if they fail at all, fail on account of the adhesion of the print to the glass. I used to have many failures from this myself, but I completely overcame them by a slight modification of the way of preparing the glass. What I advise is as follows:

The glass should first be thoroughly cleaned, and should be covered with a thin coating of wax by rubbing over it, with a piece of flannel, a solution of a few grains of bees'-wax to each ounce of benzine. Some French chalk should then be scattered on the surface, and with this and a clean piece of flannel the wax should be polished off as completely as possible. It will be found after this that there will be no sticking of the prints to the glass.

(To be continued.)

AN OPTICAL LANTERN SOCIETY.—A largely attended meeting of gentlemen interested in the optical lantern was held at the Lawson Café, West Bar, Sheffield, on Wednesday evening, Jan. 29th, when it was unanimously resolved that an association be formed under the title of the Sheffield and District Optical Lantern Society. The object of the Society is the periodical exhibition of members' own work, and also for the interchange of ideas on the subject. In addition to a committee of management, the following officers were elected:—President, Dr. Manton, M.R.C.S., L.R.C.P.; Vice-Presidents, Mr. J. C. Skinner and Mr. H. Staniforth; Hon. Secretary, Mr. J. S. Frith, 403, Shoreham Street, Sheffield. The first general meeting will be held on Wednesday, February 12th.

Our Contemporaries at Home and Abroad.

Anthony's Photographic Bulletin (N.Y.) says:—"Judge Rea, of Minneapolis, recently rendered a decision that is of importance to photographers. Miss Ida E. Moore brought suit against A. B. Rugg for allowing a private detective named Clark to obtain a picture of her from his studio. Rugg entered a demurrer, charging insufficient cause for action. Judge Rea overruled the demurrer on the ground that a photographer has no right to allow anyone, other than the person who sits for a picture, to take photographs from his gallery." In an article on "The Influence of Temperature of Photographic Manipulations," it says:—"The assertion that more detail could be obtained from a warm than a cold developer is erroneous; the developer applied warm accelerates only the development of the shadows—that is, the negative remains soft, and will therefore furnish harmonious and handsome prints." Articles: "The New Printing Process," "General Remarks on Developers," "Testing the Rapidity of Dry Plates," "False Rendering of Photographic Images by the Misapplication of Lenses," etc.

L'Amateur Photographe (Paris) continues its article on "Photography and its Industrial Applications," and there are also articles on "Toning with Uranium," "A Fixing and Toning Bath," "The Lantern for Enlargements," etc.

American Journal of Photography (Phila.), in an article on "The Dangers of Flashlight Compounds," says:—"It seems hardly necessary now, in view of all that has been said, to raise a note of warning in regard to the use of all these flash-powders, but the statement has been already made that while this one particular compound was unsafe, other compounds are harmless. The writers wish to state, therefore, that they consider *all forms* of flash-powder dangerous, the difference between them being only in the degree of danger involved." Articles: "Stops or Diaphragms," "Value of Silver Waste," "A Dream of Photographic Perfection," "Darkened Silver Chloride not an Oxychloride," etc.

The *Art Journal* for February contains as a frontispiece a splendid etching, by James Dobie, of Frank Bramley's pathetic picture "A Hopeless Dawn," and the articles, of which we append a list, are most interesting and copiously illustrated. Articles: "Vanishing Rome," "Painters' Studios," "The Royal Academy in the Last Century," "Church Furnishing and Decoration," "Cambridge as a Sketching Ground," and portraits of Robert and Elizabeth Barrett Browning.

The Beacon (Chicago), speaking on "Mounting Lantern Slides," says:—"But we may ask, Why should lantern pictures be square, or nearly so? Artists of the brush are deservedly credited with a fairly good appreciative taste in such matters, and we are within the mark in saying that less than one per cent. of the frames that adorn our galleries, either public or private, are of that form, and even of those few, for most of them there is some especial reason for the choice of the direct square. . . . No pains should be spared, and no time grudged or thought misspent, and an exposure should never be made on a subject that is not in every way satisfactory. Better a clean plate than a picture that needs to be apologised for." Articles: "The Optical Lantern" (continued) "Printing on Plain Paper," "Carbon Printing," "Toning Ready Sensitized Paper," "Flashlight Photography," "Copying Processes," etc.

British Journal of Photography, speaking of "Emanations from the Dark Slide" and their causes, says:—"It would be desirable to know more definitely than we do at present what are the substances that produce the emanations given off from either fogging or insensitiveness in our sensitive films—turpentine and some kinds of leather have an evil reputation, but the list of substances, the emanations from which produce some effect upon gelatino-bromide of silver is, no doubt, capable of being considerably extended, and a systematic research of the nature of such substances and the characteristics—whether fogging, desensitizing, or possibly of enhancing sensitiveness—belonging to each, would be a valuable addition to the stock of photographic knowledge." Articles: "Fatal Bursting of an Oxygen Cylinder," "The New Benzoline Limelight," "Selecting Focal Distance with Detective Camera," "Distance beyond which all Objects will be in Focus with any given Lens," etc.

Bulletin de la Société Française de Photographie contains a list

of the members of the Society, and the report of the general meeting of the members on January 3rd, in the course of which the Secretary emphasised the danger in the use of flash-light powders. Dr. Stolze recommended that the magnesium should be mixed with only an equal quantity of chlorate or nitrate of potash. There was also a communication on the "Development by Eikonogen."

The Camera contains articles on "Lantern Slides," "Detective Photography," "Repairing Broken Negatives," "Eikonogen," etc.

Illustrations for February is an interesting number, with many illustrations. It contains articles on "The Berberis," "Yankee Ingenuity," "Aelfgyth, the Cornish Slave Girl," "Cecil Gordon Lawson," "Tyrolean Winter Resorts," "Bacon versus Shakespeare," "The Land of the Maoris," and "By the Stream-side."

The *Journal of the Society of Arts*, speaking of "The relation of the Fine Arts to the Applied Arts," says:—"The exquisite proportion of perfect form and the superadded charm of harmonious colouring combine to produce beauty in design, and the true principles underlying each are not beyond acquisition, although it may still be true that 'a poet is born, not made.'"

The Naturalists' Record has an article on "Hints on Photography for Naturalists," by Dr. Emerson, and, in another article on "Photography" generally, it says:—"As we have before advised, learn to retouch, but don't do too much of this sort of thing. The tendency now-a-days is to make a thing look better than it really is. There beauty is lost. Keats says, 'Beauty is truth—truth beauty.'"

Photographic Answers (No. 3) contains a reproduction, by the Direct Photo Engraving Company, of Mr. Willard in "The Middleman." In its article "Practical Work," dealing with the production of lantern slides, it says:—"The first essential for a perfect lantern slide is correct density, and, as a guide to this, we strongly recommend the purchase of a good slide from some dealer, with which to compare those we make for ourselves. There should be no difficulty in obtaining such, but the slide must be made on a gelatine plate if we are going to use gelatine dry plates." It also treats of the carbon and transferotype processes, colouring slides, and to make slides from larger negatives. Other articles are: "The Order of the Day," "On Platinotyping," "Suggested New Developers," "On Negative Retouching," "Eikonogen," etc.

The *Photographic Art Journal* contains two process block reproductions—Netley Abbey and "Broadlands"—which are a great step in advance of those presented with the last number. In an article on "The Artists' Purpose," it says:—"Surely there never was a greater mistake than the custom which puts the camera on the top shelf from October until May—as though Nature were not worth looking at all through the winter—unless it be for an occasional fall of snow unusually long, and lying deep, or a phenomenal hoar frost! Cover-side and wood, and even damp open meadows, are made beautiful on the least interesting of winter days, if the light and time of day be but rightly chosen. Is there no picture to be found in the silent, dim, misty days of a damp February?" Articles: "The Authority of Painters," "Topography and Art," "Copying," "Lyonel Clark's Platinum Toning Process," etc.

The *Photographic News*, speaking of "Magnesium Lamps," says:—"When magnesium ribbon was first made it was rotten, and broke easily when handled; this defect was overcome by alloying it with a trifling proportion of zinc. As zinc gives a bluish-white light when burnt, it might be worth while to try experiments for the production of a large and brief flame of burning zinc at will, to find out what can and what cannot be done with it in photography." Articles: "Obtaining the Critical Focus upon Finely-Ground Glass Screens," "Eikonogen," "Selecting Focal Distance with the Detective Camera," etc.

Photographic Scraps says:—"Pictures by photography, when indicating motion or expression, will only be perfect when we can take three or four successive 'shots' at our object, and combine them in the zoetrope adaptation of the lantern. Then we shall get a picture which shall approximate somewhat to that which the eye is conscious of in the ordinary way—a picture which is as far removed from that libel usually known as an instantaneous photograph as light is from dark."

Photography, speaking of "Exposure," says:—"The usual habit is to try with how little exposure we can get detail. The proper

way rather is, to try how much we can expose our plate without fogging the negative." Articles:—"In the days of Wedgwood," Mr. Muybridge on "Animal Locomotion," etc.

The Practical Photographer, speaking of "Fire Insurance for Photographers," says:—"The insurance offices do not care to reduce their rates as the risks reduce, unless pressure is brought to bear from outside, and in this inaction they simply follow the ordinary rules of business. Photographers, in a very great number of cases, are paying rates far beyond what the risks warrant, simply because they are too indifferent to take action to secure fair treatment." Articles: "Photography as a Business," "Photographic Travellers: F. K. Hurman," "Position and Prospects of the P.B.A.," "Aluminium for Lens Mounts," "Electric Light in Portraiture," etc.

The Scientific American describes Mr. J. H. Biggs' method of making silver prints on rough drawing paper, and it also describes a photograph of the Pleiades taken at the Leek Observatory. The plate measured 8x10, and Mr. Barnard estimated that there were on it distinctly visible 64,000 stars.

"Thursday Evenings" at the Camera Club.

BY ONE OF OUR STAFF.

MR. LYONEL CLARK occupied the chair at the meeting of the members on the 30th, when, however, the attendance was rather small. Previous to the business of the evening, Mr. Davison showed some prints, by Mr. Quick, which had been made on a portion of the same paper as a letter was written on, which that gentleman had salted and sensitised with a strong citro-nitrate bath. The effect was good, and the colour soft. Mr. Davison also announced that on Monday another exhibition would be opened at the Club, which would be followed by the monthly smoking concert.

Mr. Dallmeyer then read his paper on "Some Deductions from the Law of Conjugate Foci." The paper was interesting, but as it consisted mainly of descriptions of apparatus and the explanation of some specimens attached to cameras which the reader had brought with him, it is somewhat difficult to go into it. One thing must have struck Mr. Dallmeyer's hearers, viz., that, however effective the apparatus he described, it was somewhat complicated, and we are afraid that until some simpler method of doing away with the focussing screen is discovered, most photographers will prefer to retain it. Subsequently to the reading of the paper, the conversation drifted into the question of enlargements, and one gentleman related the fact that a person of his acquaintance who had done very successful enlargements, reduced the picture first, and then enlarged from the reduction! Another one desiring to enlarge four diameters, made a negative two diameters larger than the original, and then enlarged again from that. The Chairman intimated that for the best work he had found it well to enlarge to, say, five diameters, and from that enlargement to reduce to four. The proceedings terminated with a vote of thanks to Mr. Dallmeyer for his paper.

The subject on Thursday, February 13th, is "Landscape," when a paper will be read by Mr. Graham Balfour.

THE *Oxford Magazine* of January 29th, in referring to an etching by Mr. Claude de Neuville, says that the "Magdalen Tower is deservedly the best known bit of Oxford; it is the favourite of artists of all kinds, whether painters, etchers, or photographers." We quite agree with this, and hope Mr. de Neuville may succeed in giving us something out of the common. His pen-and-ink drawings of Oxford are, if anything, too careful and affected, but nevertheless dainty and refined.

LIPPINCOTT'S for February is very interesting, the *pièce de résistance* being a story by A. Conan Doyle, "The Sign of the Four." There is also an article by Francis Galton, on "Why do we Measure Mankind?" and another by A. E. Watrous, City Editor of the *Philadelphia Press*, on "The Newspaper and the Individual: a Plea for Press Censorship," in which the question is dealt with boldly, but the idea is one which will not be received in England without opposition.

Societies' Meetings.

NOTE.—In this column the Editors can, of necessity, only give a brief summary of the proceedings. The PHOTOGRAPHIC SOCIETIES' REPORTER was established to report the transactions of Societies, and the Editors will be glad to receive reports for insertion as early as possible after the meetings have been held, and at the latest before the 24th of each month.

BATH PHOT. SOC.—On the 29th ult. a meeting was held, at which Mr. W. Pumphrey (President), Messrs. Lewis, Wells, Swain, and Gibbs were elected members of the Society, and Messrs. Pitman and Day, Auditors. An offer by Dr. Emerson to present the Society with a copy of his work, "East Anglian Life," was accepted with best thanks. Messrs. Dugdale and Davis then entertained the company with dissolving views of places visited by the Society at the summer outing, also a local series and one of North Devon. Mr. Davis manipulated the lantern (his own), using an oxy-etho tank of own make. The light was very steady and brilliant. Mr. Dutton showed some trials of bromide printing on celluloid, and some others on opal and cardboard. Annual meeting, February 26th.

BRIXTON AND CLAPHAM CAMERA CLUB.—The last meeting was held at the club-rooms, 35, Bedford Road, Clapham, S.W., on Friday, 31st ult. Five proposals for membership were received. Articles from the journals and PHOTOGRAPHIC QUARTERLY were read, and a discussion on the subject of "Exposure" took place. Amateurs in the neighbourhood are invited to the meetings.

DUKINFIELD PHOT. SOC.—The ordinary monthly meeting of this society was held on the 31st ultimo; the President, Mr. John T. Lees, in the chair. The arrangements for an exhibition of members' work, to be held on February 20th, 21st, and 22nd, were announced. On the first night members' slides are to be exhibited; on the second night a number of commercial slides; and on the third night a soirée will be held. Mr. T. Glazebrook (Vice-President) then gave a very successful demonstration on the "Cold Platinotype Process." The President followed with a demonstration on "Bromide Printing by Contact," from the same negatives that had been used for the platinotypes. The Secretary presented to the Society (on behalf of Mr. Richard Keene, of Derby) two beautiful platinotypes, and a hearty vote of thanks was passed to Mr. Keene for his kindness in presenting them. A vote of thanks to the demonstrators concluded the proceedings.

EDINBURGH PHOT. SOC.—The first popular meeting of the Edinburgh Photographic Society for this session was held on January 30th, in the Queen Street Hall. There was a large attendance, and the entertainment appeared to be much appreciated. About 140 transparencies were shown on the screen, mostly illustrating Scottish scenery or folk-scenes, and the descriptive remarks were read by the Secretary, Mr. T. Barclay. The proceedings were pleasingly varied by songs sung by Miss Edmonds, Miss Smith, and Mr. D. Macarthur.

HOLBORN CAMERA CLUB.—On the evening of the 31st ult., there was no formal meeting, but several members attended for a social evening at the Club-room. Mr. Chang and Mr. Cobb submitted proofs of the flash-light pictures taken on the occasion of the recent visit of the club to the rooms of the Holborn Cycling Club, which were much admired. Mr. Dear submitted to the notice of the members an album of views taken by a friend in New Mexico. Two energetic members of the club who had been giving an entertainment in the City with the club lantern and screen then turned up, and were received with acclamation. During the evening a magnificent 22 by 16 enlargement from a negative of the club head-quarters, taken by Mr. Brocas, arrived from Messrs. Fry and Co. The members will be pleased to see visitors this evening (February 7th), when the subject will be "Instruction to Beginners," including "How to Select a Camera and Lens, and How to Use them to the best Advantage."

LEITH AM. PHOT. ASSOC.—The annual general meeting of this Association was held in the Rooms, Duke Street, on 28th January, Mr. W. F. Walker, Vice-President, occupying the chair. The Secretary submitted a report relative to the progress made by the Association during the short term of its existence, which showed that exhaustive papers, dealing both with the art and science of photography, had been read; various novelties apper-

taining to the art had been before their notice, through the kindness of patentees and others; selections of work by eminent photographers had been submitted them for inspection; and gifts of a more or less valuable nature had been made to the Association. The membership stood at forty-eight ordinary and two honorary members. The report was unanimously adopted. The election of office-bearers for the session 1890 was then proceeded, with the following result:—President, Mr. William Dougall; Vice-President, Mr. Thomas W. Dewar; Treasurer, Mr. Alexander Pitkethly; Secretary, Mr. A. D. Guthrie; Members of Council, Messrs. Wm. Smith, John Pourie, R. C. Ewart, Robert Hunter, Campbell Hossack, W. F. Walker, Wm. Swanston, M. Campbell, Thos. Wilson; Auditors, Messrs. Hunter and Ewart. A discussion followed on a proposed second popular meeting, it being finally agreed that a lime-light exhibition of members' work should take place in Junction Street Hall on Tuesday, 25th February, the arrangement of details to be left in the hands of the Council. Mr. R. Hensleigh-Walter was admitted a member, while Dr. McCreadie was nominated for admission. An offer from Dr. P. H. Emerson, author of "Naturalistic Photography," to present the Society with a copy of his "East Anglian Life," fully illustrated by reproductions of his pictures, was accepted. A design for the membership card for 1890 by Mr. Wm. Smith was submitted and unanimously accepted.

LIVERPOOL AM: PHOT: ASSOC:—The first ordinary meeting of the twenty-seventh session was held on Thursday, the 30th Jan. The President, Mr. Paul Lange, occupied the chair. The minutes of the previous meeting were read and confirmed. A letter was read from Mr. A. W. Beer (ex-President), regretting his inability to attend, owing to illness. In his absence, Mr. B. J. Sayce occupied the chair at the commencement of the proceedings, and in a few words introduced Mr. Paul Lange, President-elect, who thereupon took the chair. The following gentlemen were elected members of the Association, viz.: Messrs. J. W. Warburton, M.D., Jno. Price, M.I.C.E., Rev. G. F. Wills, H. Cope West, E. S. Gladstone, B. Cookson, and J. Watkins. Mr. P. Lange spoke at some considerable length as to the benefits derived from conventions generally, more particularly when attention was drawn to something really practical. He advocated that a better feeling should be cultivated with kindred societies, and drew attention to the Chester Conference to be held shortly, of which Mr. F. Evans was the able Secretary. Mr. Lange had not had time at his disposal to prepare anything in the form of a "speech," and called attention to the general plan of operations which it was proposed to carry out during the session, and hoped the members would not be reticent about photographic troubles and failures (especially the younger members) which they might experience from time to time. He was sure there were many experienced members who would be most happy to give the necessary information. A short discussion on the subject of "The Best Lenses for Detective Work" then followed, in which Messrs. Sayce, Wilkinson, Earp, Lange, Kirkby, Williams, Tomkinson and Swinden took part. It was pretty generally allowed that an ordinary French lens, working at $f/11$, with a rapid shutter, gave good results; especially so when working with a lens covering the next larger sized plate than the one used (i.e., a 5 by 4 lens for quarter-plate prints, etc.) Arrangements had been made for Mr. A. W. Beer's paper entitled "Bits on the Borders and Rambles on the Marshes," but as this could not be given owing to Mr. Beer's illness, Mr. W. J. Archer exhibited a selection of Woodbury lantern slides and a series of views of the Paris Exhibition, including a few panoramic slides, which gave great satisfaction. The exhibits consisted of snap shots by H. Wilkinson on glass and film; new lantern slide carrier by W. J. Chadwick, Manchester; and Mawson and Swan's transparency and photograph frame.

MANCHESTER AM: PHOT: SOC:—The fifth annual meeting of the Manchester Amateur Photographic Society was held in the Athenæum on the 28th January. Some valuable additions were made to the rules, after which the ballot papers were distributed for the election of the Council for 1890:—Messrs. Boardley, Bond, Briggs, and Shaw were appointed scrutineers, and during the counting of the votes there was a sale by auction of surplus apparatus, the property of members of the society. The poll was an exceptionally heavy one, and the result was only announced at a late hour. The elected Council then retired and elected from their own number the officers for 1890. The list is as follows:—President, Mr. J. Davenport; Vice-Presidents, the Rev. H. J. Palmer, M.A., and Messrs. H. Smith, J. W. Wade, and J. Whit-

ham; Treasurer, Mr. J. G. Jones; Librarian, Mr. J. H. Seed; Editor of Magazine, Mr. George Wheeler; Hon. Secretary, Mr. R. O. Gilmore; General Council, Dr. Tatham and Messrs. Bathe, Dawson, Flower, Parrott, Rigby, Stanley, Stevenson, and Wilcock. This Society is now the largest of the kind in the United Kingdom.

NORTH MIDDLESEX PHOT: CLUB:—The following gentlemen have been elected officers for the ensuing year. Honorary officers—President, J. Humphries, F.S.A.; Vice-Presidents, H. Beckett, W. T. Goodhew; Curator, F. Davall; Council, C. Beadle, F. Cherry, T. C. Lathbridge, W. A. Lavanchy, F. L. Pither, J. Saville, J. Steuart, H. Walker, E. T. Hiscock; Treasurer, E. Seymour Paul; Hon. Secretary, George R. Martin. On Monday, January 27th, Mr. L. Medland gave an interesting lecture, entitled "In Northern Latitudes with a Camera," illustrated by lantern slides shown through the optical lantern; the slides were collodio-bromide, made by himself from negatives taken during his tour. A very interesting evening was spent. The following gentlemen have been elected honorary members: Messrs. S. Herbert Fry, Charles W. Hastings, and the late Secretary and promoter of the Club, Mr. E. F. C. Damant. On Monday, February 10th, Mr. Humphries (President) will open a discussion on "Dark-room Illumination," and illustrate by several practical tests. Any gentlemen having lamps which they consider especially safe, while giving a maximum amount of light, are invited to bring the same for the purpose of experiment.

PEOPLE'S PALACE PHOT: CLUB:—At an ordinary meeting of the members of this club on Friday, the 31st of January, Mr. Beckett in the chair, an exhibition of members' lantern slides took place, about 100 being passed through the lantern by Mr. W. Barrett. Some very interesting slides were shown by Mr. Downing, of the Workman's Exhibition lately held at the Palace, and also by Mr. Lawday, who had been experimenting with various developers on the Alpha plates.

WEST SURREY AM: PHOT: SOC:—A meeting was held at Crichton Hall, Clapham Junction, on the 29th ult., Mr. Davison in the chair. The evening was spent in a demonstration of the "Flash Light" by Mr. D. Graham, who used lamps made by himself, and was congratulated by Mr. Davison on their successful working. A discussion followed, in which Messrs. Davison, Martin, Calland, and others took part, in reference to the lenses suitable for the subject, and the method of using them. Mr. Graham afterwards exposed a couple of plates on the members, and developed them during the meeting.

ANNUAL DINNER OF THE PHOTOGRAPHIC SOCIETY OF GREAT BRITAIN:—The next annual dinner of the Photographic Society of Great Britain will take place at the Café Royal, Regent Street, on February 10th, at 6.30; tickets, 6s. each. Early application for tickets should be made to Mr. W. England, 7, St. James' Square, Notting Hill, W.

BAZAAR AT NORWICH:—Of a bazaar in connection with the Chapel-in-the-Field Congregational Church, the *Eastern Daily Press* says as follows:—"A feature which should be a great attraction to lovers of the camera, and of much interest to the public generally, consisted in the exhibition of 300 photographs, the work of amateurs, which were entered for a competition arranged by the Editors of the AMATEUR PHOTOGRAPHER. The collection, which was kindly lent through the good offices of Mr. Fuller, is located in the Committee-room upstairs, the walls being well covered with numerous artistic specimens, arranged under the four heads of Inland Scenery, Seaside Views, Animal Life, and Hayfield Scenes. There are some beautiful examples of the new aristotype process included, in which a special kind of paper is used, the impression being printed by light, and afterwards developed on to the plate. These productions have a most finished appearance. Moreover, various shades can be produced, from blue to purple, and from brown to steel colour. The best specimen among the examples of animal life is an obernetter, showing a group of Highland cattle browsing in the Trossachs, remarkable for clearness and distinctness. The finest seaside view gives a 'Sunset off New Brighton,' a splendid piece of work, the shimmer of the waves and the gathering clouds being rendered with great fidelity. This exhibition will well repay a visit."

Exhibitions.

THE ROYTON EXHIBITION.

THE following is the list of awards at this Exhibition. The judges were Messrs. Paul Lange, Watmouth Webster, and Walter D. Welford.

Class 1—Series of Landscape or Seascape (Amateur).—Silver medal, J. E. Austin; bronze, C. Court Cole.

Class 2—Landscape or Seascape (Professional).—Silver medal, J. Pike; bronze, J. P. Gibson; highly commended, Frank M. Sutcliffe.

Class 3—Amateurs' Portraits.—Silver medal, S. Butler; bronze, Alf. Stieglitz; highly commended, J. E. Austin.

Class 4—Professional Portraiture.—Silver medal, W. J. Bryne; bronze, J. Mendelssohn.

Class 5—Architecture (Amateur).—Silver medal, C. Court Cole; bronze, Ernest Beck.

Class 6—Architecture (Professional).—Silver medal, J. P. Gibson; bronze, W. H. Reeves.

Class 7—Enlargements (Amateur).—Silver medal, W. H. Kitchen; bronze, J. H. Faulks; very highly commended, Rev. J. G. Gibson; highly commended, T. J. Bright.

Class 8—Enlargements (Professional).—Silver medal, M. Auty; bronze, F. Whalley.

Class 9—Instantaneous (Amateur).—Silver medal, E. Beck; bronze, Rev. J. George Gibson.

Class 10—Instantaneous (Professional).—Silver medal, Lyd Sawyer; bronze, J. E. Goold.

Class 11—Best Photograph by one who has commenced Photography since January, 1889.—Bronze medal, R. B. Lodge.

Class 12—Lantern Slides (Amateur), Series of not less than Six.—Silver medal, W. B. Kitchen; bronze, Edgar G. Lee.

Class 13—Lantern Slides (Professional), not less than Six.—Silver medal, G. W. Wilson; bronze, G. E. Thompson.

Class 15—Mechanical: Engines, Machinery, etc. (Amateur and Professional).—Silver medal, T. Scotton; bronze, W. Parry.

Class 14—Best Picture taken upon one of Fry's Plates (Amateur and Professional). First prize (an opal enlargement, richly finished in monochrome, and framed in plush, and black, and gold, presented by Messrs. Samuel Fry and Co., Limited), F. Whalley; bronze medal, Walter D. Welford.

Class 16—Scientific: Micro-photography, Botanical and Astronomical Photography, etc. (Amateur and Professional).—Silver medal, G. G. Carnell; bronze, S. F. Clarke.

Class 17—Landscape with Figures or Figure Studies (Amateur).—Silver and Bronze Medal and Certificate, presented by the Proprietors of the AMATEUR PHOTOGRAPHER. Photographs that have been awarded the AMATEUR PHOTOGRAPHER Medals at any other Exhibition or Competition not eligible.—Silver medal, J. E. Austin; bronze, T. J. Bright; certificate, C. J. Roe.

Class 18—Genre Study Competition, for the encouragement of the Art of Posing, and the Study of Figure Photography generally. Subject, Longfellow's "The Happiest Land." Set of Three Pictures in One Frame. (Amateur and Professional).—Silver medal, J. Hubert.

Class 19—Best and Second-best Pictures in the Exhibition, irrespective of Class.—Silver medal, H. P. Robinson; bronze, F. M. Sutcliffe.

Class 20—Champion Class (Amateur).—Gold medal, A. G. Tagliaferro; silver, J. W. Kenworthy; bronze (extra), C. J. Roe; very highly commended, J. Dumont.

Class 21—Champion Class (Professional).—Gold medal, H. P. Robinson; silver, F. M. Sutcliffe; bronze (extra), W. W. Winter.

To Correspondents.

THE insertion of **QUERIES** and **ANSWERS** is attended with much labour, and it is requested that the questions asked and the answers given shall be short and to the point. No charge is made.

All communications for the columns are to be addressed to The Editors, "Amateur Photographer," 1, Creed Lane, Ludgate Hill, London, E.C.

RULES.

1. Write clearly and distinctly on one side of the paper only.
2. Write each Query or answer on a separate sheet of paper.
3. Write the name and address legibly on the back of each communication, and sign all Queries and Answers with name or *nom de plume*.
4. All matters for these columns **MUST** be received by **TUESDAY MORNING'S POST**.
5. The Editors do not undertake to answer questions by post.
6. In answering Queries correspondents are requested to mention, in every instance, the *number and full title of the query* referred to.

QUERIES.

3415. **Printing**.—Can anyone tell me if there is any way to get sensitised paper off the negative, which sticks to it through a shower of rain coming on suddenly whilst being printed?—J. A. F.

3416. **Bromide Enlargements**.—I have made several of these from quarter and half plates on Eastman's permanent bromide paper, using the formula for preparation and use of developer, etc., given with the paper, and taking all possible precautions as to cleanliness of dishes, hands, etc. The results have in general been good, with the important exception that a large proportion show what are apparently iron stains after fixing. Will you or one of your many readers be kind enough to endeavour to explain this, and to give a trustworthy formula for the developing, clearing, and fixing solutions?—AMATEUR.

3417. **Conveyance for Touring**.—I intend making a tour through different parts, taking views as I go.

Can any of your readers give me instructions for making a light barrow, such as would carry all photographic necessities, so as to enable me to develop on the spot, or recommend anything suitable?—O. F.

3418. **Shutters**.—I want a shutter, so that I may sit down in a chair, and make an exposure, either short or long, simply by holding or pressing a ball in my hand. The longer I press the longer the exposure is to be, and would also like to be about a yard from the camera. Would you mind giving me the name of a maker or two? It must not shake the camera the least bit. How would Perkin and Raymond's shutter do?—J. F. LESTER.

3419. **Vevers' Lens**.—Will you please give me some advice about the following:—I intend in the spring to have a photographic ramble, and take the photographs of churches, and also other pretty views, and I have got a single lens (5s.) and also Vevers' (18s.6d.) rapid rectilinear. I am going to take them quarter-plate, and then enlarge them on bromide paper. I shall also take a few instantaneous views; and what I want to know is, shall I need more lenses? Can any reader say anything good about Vevers' R.R., as I have done no work with it yet? Which plates out of the Ilford are the best to take lightning on?—P. R. S.

3420. **Lantern Slides**.—I should be glad to know whether a 5 by 4 camera would be most suitable for exclusive work of this kind, or one made of smaller dimensions, say, 4 by 4. The experience of any who have made photography for the lantern a special study would be appreciated by—LIMELIGHT.

3421. **Background**.—How can I make a proper background in taking a person's photograph? When a person gets his head and shoulders taken, there is a kind of shadow all round the head.—PHOTOGRAPH.

3422. **Lens for Detective Camera**.—Would someone tell me what is the cheapest and best lens for a detective camera holding plates $3\frac{1}{2}$ by $3\frac{1}{2}$ ins.—OTTO V. DARBISHIRE.

3423. **Stains**.—Can I get rid of the stains on some of my negatives?—STAINED NEGATIVES.

3424. **Grinding Lenses**.—I have a great wish to grind and polish my own landscape lenses. Can anyone tell me where I can get a book of instructions on grinding and polishing lenses?—W. F. WRATISLAW.

3425. **Switzerland, Ilford Plates**.—Could any reader please inform me whether and where I can get Ilford plates and apparatus at Marat, in Switzerland, twenty-five miles from Geneva, or the nearest town to Marat?—A. OVERTON JONES.

3426. **Waverley Shutter**.—Can any reader tell me where I can obtain the Waverley Express shutter and the price; also ebonite sheets for shutters of slides? What make of lens is recommended for a hand and detective camera, R.R., price being an object? What are suitable shutters for such an instrument?—CRESTERFIELD.

3428. **Forth Bridge**.—Can anyone give me the address of a photographer who would send some

photographs of the Forth Bridge on approval to choose from?—H. C. L.

3429. **Cistern for Dark-Room**.—Is there any objection to using a large tin can as a dark-room cistern, and connecting it with the tap in the dark-room by ordinary lead pipe?—H. C. L.

3430. **Wide-Angle Lens**.—I have a Lancaster's half-plate Instantograph lens, which I find good, and am very well satisfied with; but I want a wide-angle lens. Will some of your readers who have one of their combination Rectigraph lenses say whether the middle focus is as good as the Instantograph lens?—SNOW DROP.

3431. **Ventilation of Dark-Room**.—I intend making a dark-room within another room. Can any reader inform me how to make a ventilator which would not admit light?—AMATEUR No. 1.

3432. **Hydroquinone**.—After using hydroquinone for a couple of negatives I poured it into a stoppered bottle, and put in a dark place. In two or three days it went a deep red colour. Kindly state cause, and if its efficacy is destroyed?—SOUS-MAITRE.

3433. **Opals**.—Can you tell me how the terracotta tint is produced on opals? I don't mean carbon tissue. Where can I get plates, and directions to get same results?—HANDY AMATEUR.

3434. **Fixing Prints**.—Will some one tell me how many ounces of hypo solution (4 ozs. to the pint) are required to fix one average half-plate print? I want to know as a basis for calculation.—HANDY AMATEUR.

3435. **Photographing on the Riviera**.—Can the use of dark-rooms be had by amateurs at Cannes or other towns on the Riviera? Are there any restrictions about taking photographs on the Riviera or the Italian Lakes?—C. J. S.

QUERIES UNANSWERED.

Jan. 3rd.—Nos. 3339, 3347, 3348.

10th.—Nos. 3353, 3354, 3356, 3358, 3359, 3364, 3366, 3367.

17th.—Nos. 3339, 3370, 3371, 3372, 3375, 3376, 3378, 3379.

24th.—Nos. 3383, 3385, 3386, 3389, 3391, 3392, 3393, 3394.

31st.—Nos. 3398, 3401, 3403, 3405, 3408, 3409, 3410, 3412, 3414.

ANSWERS.

3383. **Single Lens**.—I have had a Taylor, Taylor and Hobson's R.V. lens for eighteen months, and am more than pleased with it. It works well at $\frac{1}{16}$ for views, and therefore is quite suitable for instantaneous views in good light. I have obtained a good view of lake and mountains at 8 p.m. in June from a small boat, $\frac{1}{16}$, and exposure about one fifth of a second on a Page 30-plate. The $\frac{1}{8}$ is good for large heads. The distortion of straight lines is only noticeable at the margins, and then but slightly. Mine is a half-plate $8\frac{1}{2}$ inch focus lens with Iris diaphragm.—WALTER BIRCH.

3390. **Whole-Plate.**—"Normandy" can get an adapter from Messrs. Shew and Co., of 89, Newman Street, Oxford Street, whose price for a simple form of same is 39s. 6d.—UXBRIDGE.

3395. **Dark-Room Lamp.**—I have one of Watson's 16s.; good, but the burner is too common in construction and at times smells horribly. I think it would do very well with one of the colza oil burners that are made for the dashboard lamps of coaches. Petroleum is most objectionable in a dark-room.—ANGULUS.

3395. **Dark-Room Lamp.**—I have several forms of lamps which I have used at different times (including one which cost 8s. 6d.), but I have practically discarded all in favour of the cheap "bottle lantern" sold by many dealers. Fallowfield has them, I believe. I only gave 1s. 9d. for mine. They burn candle, and are no bother with oil and general messiness. They give a clear light all round, with no shadows, an enormous advantage in a small dark-room. Altogether I can strongly recommend them.—R. A. R. BENNETT.

3395. **Dark-room Lamp.**—You cannot do better than study Fallowfield's illustrated catalogue, where you will see shapes and prices.—W. A. J. CROKE.

3395. **Dark-Room Lamp.**—Dark-room lamp is made by George Houghton, and can be regulated from the outside, double glass front, 9 ins. by 7. Any coloured fabric can be slipped between.—TIR0.

3395. **Developer for Foreign Travel.**—In reply to "Victor." I have not tried desert travelling, but have found it always a trouble to develop plates while on a journey. A few, however, ought to be developed in order to get correct exposure, and I think he will find MacDougall's developer tubes very convenient, as they are small and packed in wood, and can be carried in the pocket. They can be got from Marion and Co., 22, Soho Square, London, W. Tubes containing sufficient to make 12 ozs. of developer cost 1s. He might send for a sample and judge for himself.—J. G. P. VEREKER.

3397. **Lens.**—A rapid rectilinear is one of the ordinary rapid lenses, and works with full aperture at $f/8$, and a portable symmetrical is a wide angle lens, and the full aperture is $f/16$; details of these lenses will be found in Ross's catalogue, or in his advertisements in the Almanacks.—J. G. P. VEREKER.

3399. **Edwards' XL Pyro and Glycerine.**—The following are Edwards' formulae:

No. 1.

Pyrogallie acid	...	...	1 oz.
Methylated alcohol	...	...	7 ozs.
Glycerine	...	...	$\frac{1}{2}$ oz.

Mix the glycerine and spirit, and add the pyro.

No. 2.

Bromide of potassium...	...	120 grs.
Distilled water	...	7 ozs.
Liquid ammonia (890)	...	1 oz.

To make the developer, mix one part of No. 1 with fifteen parts of water, and in another bottle one part of No. 2 with fifteen parts of water, and use equal portions of each. The dilute solutions do not keep. Develop to full density. Fix in hyposulphite of soda 1 oz. to 4 ozs. of water, and after washing, slightly immerse for one minute in

Clearing Solution.

Alum	...	1 oz.
Citric acid	...	1 "
Sulphate of iron	...	3 ozs.
Water	...	20 "

Wash well and dry.—J. G. P. VEREKER.

3400. **Repairing Kershaw Shutter.**—Fasten a thin piece of black paper over, which you will find is all that is wanted; if this does not answer, send it to the maker, who will soon make it all right.—W. A. J. CROKE.

3400. **Repairing Kershaw Shutter.**—A small piece of waterproofed silk. Put on with naphtha solution.—NAIRN.

3402. **Shutters.**—Kershaw's is the best of the two you mention, and will, I expect, well answer all your purposes.—W. A. J. CROKE.

3404. **Stereoscopic Work.**—(1) $7\frac{1}{2}$ by $4\frac{1}{2}$; (3) single achromatic; (4) simple flap shutter; (5) yes; (6) yes. If "Muwa" likes to write me I can lend him a book giving every information.—W. G. R. (address with Editor.)

3404. **Stereoscopic Work.**—(1) The best size of plate for this work, I think, is $6\frac{1}{2}$ by $4\frac{1}{2}$, as the holders admit of the use of two quarter-plates which allow of separate development and separate printing. (2) I have not yet used the Eastman Company's new film, but intend having a roll-holder for the purpose, as I have no doubt the film is quite suitable for stereo work. (3) For all-round work the R.R. lens is probably the best. (4) I use a Thornton-Pickard. (5) Yes, though this is not advisable unless the negative is cut before being developed; reason obvious. (6) Yes. I use a Chadwick camera and can strongly recommend the plate-holders (Barnett's patent) sent out with this camera. It is well to have the lenses so attached to the camera front as to allow of the distance between them being varied.—AQUÆ.

3407. **Oil Paintings.**—Prop up the picture so that it is vertical, and facing (or nearly so) a south window. Set the camera as parallel as possible to the plane of the picture, and let the lens be the

same height as the centre of it. Take care that no reflected light from the varnished surface is visible from the camera. It is the lens, not the camera, upon which success depends. I use a Voigtlander Euryscope and Edwards' Isochromatic plates. I give details of one copy: December 4th, 2 p.m., $f/11$, light good, 40 seconds.—ANGULUS.

3407. **Oil Paintings.**—"W." had better try orthochromatic plates and a yellow screen. The exposure will be long, but must be found out by experience. I got a good copy on July 31st at the back of a house in London, out of doors, light bad, stop $f/16$, light yellow screen, time $4\frac{1}{2}$ p.m., in 6 minutes. Lens wide angle.—J. G. P. VEREKER.

3408. **Hydroquinone.**—Ferrous-oxalate answers the purpose very well, but I should advise your using the above. Several good formulae have been given in back numbers. Or try the "Hethon Lewis" or Stephens's one solution, which I can highly recommend for lantern work.—W. A. J. CROKE.

3411. **Pinholes in Negatives, etc.**—I am afraid "J. H.'s" failure is due to want of practice. The reason that he thinks the colour gets under the film is that he had touched the edge of the hole. The correct way of working is the following: Use some easily working colour, Prussian blue is generally used, but sepia or crimson lake, or other colours will answer. Mix some on a palette, then dip a fine sable brush in water, and shake out most of the water, so that the brush is pointed and damp, then pick the colour up on the point of the brush, and apply carefully in the centre of the spot; the colour must be nearly dry, and it ought to dry immediately. A large number of spots can be removed by pencil if a good retouching medium be used; and it is best to use it before colour is tried, but for clear holes colour must be used.—J. G. P. VEREKER.

3413. **Earthenware Sinks.**—George Houghton and Son, 89, High Holborn, London, make these a specialty.—NAIRN.

3415. **Earthenware Sinks.**—"Henry Dundas" obtain this of Messrs. Fallowfield and Co., but I should strongly recommend him to get one of their lead sinks on stand, price £3.—UXBRIDGE.

EDITORIAL.

NOTE.—Any one requiring an opinion upon photographic apparatus, plates, etc., must give a number or initial for identification, as in no case will makers' names be inserted in this column.—EDS. AM: PHOT.

LENS.—The firm you name send out excellent lenses. You can safely leave yourself in their hands. State fully to them the purpose for which you require the lens, and they will advise you.

H. CUMMINS.—As far as we know, we have never seen the camera you enquire about, and, therefore, cannot advise you as to the purchase of it. The firm have, we believe, a good reputation, and are not likely to sell you a set of apparatus that will not come up to their description of it.

A. E. VENN.—We appreciate very much the high opinion you have been pleased to express of our efforts to advance and raise photography.

ED. C. DAVIS.—No. 1 is an excellent lens, and should give you all you require. It will work at $f/6$.

CHARLES MALE.—Perhaps No. 1 is the best; but they are all first-class lenses for your purpose, and will either of them do as good work as those made by the two other firms you name.

W. H. BANKS.—We should advise "T." and also that you should write the firm telling them that you required the lens for "confined views of architecture." They will, we are quite sure, advise you for the best. It would certainly not be safe to use a lens only covering $6\frac{1}{2}$ by 5 on a whole-plate.

W. H. ARMITAGE.—If the formula is made up strictly in accordance with the instructions, you should not fail in securing the correct tone.

JOHN H. MONTAGU.—Your letter is, if anything, more absurd than the last. We do not know if your desire is to teach readers of the AMATEUR PHOTOGRAPHER, or to gain a literary reputation. In either case we can only say that such communications are out of place, and show an amount of ignorance that we hardly would have believed existed in the mind of any amateur photographer.

JAS. SHAW.—The prints for "Prize Tour Competition" can all be arranged in one mount. It is best that they should be framed, as it is intended to exhibit as many as possible at the Crystal Palace Exhibition, and framed pictures will have the preference. The prints you ask for are returned.

BERT.—Your print lacks definition; has little or no artistic merit, is badly printed, and you will, we have no doubt, live long enough to rejoice that you "let the negative fall and broke it." The print you so value is returned.

ROB. SHAW.—So we will if you send stamped addressed envelope; but we have no intention of giving a gratuitous advertisement to a man who is selling an article at less than cost price.

T. W. DERRINGTON.—You are restricted to one set in each subject.

W. G. R.—We should like to see your negative before passing an opinion upon the print. Kindly

also give us particulars of lens, stop, light, exposure plate, and developer used. We will then try and give you a few suggestions. Your suggestion about lantern slides should be good for the firm; why not write them? The cheap plates are, we should say, "old stock." None have been sent to us, but we know the history of them, or think we do.

EDWARD SWINGER.—We should quite as soon buy and use No. 2. They are, of course, both first-class, in fact none better; but there can be no reason why you should not save 10s. Our advice is always disinterested, and we are only prompted to give the best in our power, and that which we think will best meet each special case.

L. L. F.—You do not say the size of your condenser. You can easily experiment with the lens, and adjust to the proper focus. You of course require means of adjustment, either with rack and pinion or sliding tubes. We send you the name by post; or can give you no information about them. See reply to "W. G. R." Always glad to hear from a subscriber since No. 1. Cheap things are nasty, so are "sour grapes."

ALUM.—The alum is used as a clearing solution, and with many plates and some formulae is imperative. You cannot go wrong in using a weak solution.

F. A. BRIDGE.—Your advertisement was a trade announcement, and the clerks got mixed as to whether it should appear in Sale and Exchange column. Sorry you had so much trouble. If you want to make a business you must, so our publishers assure us, advertise in the AMATEUR PHOTOGRAPHER. We are sick of writing your address, and wish "Country Cousin" had been far enough before he owned up. Shall not send any more, so if you want to get rid of them you must advertise at usual rates.

FRED DAVIS.—See recent articles on "Carbon Printing," in AMATEUR PHOTOGRAPHER, vol. x., pp. 368 and 433. We do not remember that there was a carbon enlargement included in the "enlargements" recently exhibited at Creed Lane.

H. H.—Photographs that are entered for the "Prize Tour Competition" must not have been exhibited elsewhere prior to the 28th of February. After that date competitors can exhibit prints from the same negatives where they please.

ALEX. FERGUSON.—You should mount half-plates on $8\frac{1}{2}$ by $6\frac{1}{2}$ or 10 by 8 mounts for our Monthly Competition.

J. DESIRE ENGLAND.—Will report upon your celluloid negative films next week.

W. L. GROVES.—Have inserted your letter re "glass discs for condensers." Entry forms have been sent you. Sorry we have not the special year book you ask for. Why not write to the editor, 2, York Street, Covent Garden?

ALPHA.—(1) We have seen good work done with the lens. (2) Should not think it at all likely "to get out of order" if carefully used. (3) Depends upon what you want it for; an R.R. lens is far away the best for all-round work.

M. D.—Cannot criticise photographs sent to our monthly competitions at present.

DR. L. JAMES.—Your camera and lens are good. The other queries we are answering by post.

R. A. R. B., F. G. READER.—See announcement this week.

J. W. BACON.—We shall be pleased to peruse your articles, and to accept them if suitable for our columns.

REV. G. W. ALLEN.—Before making lantern slides of any artists' drawings or sketches from *Funch*, you must have their permission. And if exhibited without will subject yourself to an action for infringement of copyright. Your idea is splendid, and you can follow it out with your own work but not with other people's, without their consent. The slides would not be eligible in the AMATEUR PHOTOGRAPHER Lantern Slide Competition.

THOS. CLARKE.—For the lens you name A is much spoken of, but we think you will do best with B for all-round work. Pleased to hear that your two friends (not photographers) bought copies of the second number of the QUARTERLY. The frontispiece is as you say quite worth framing, and is a fitting ornament for any drawing-room.

W. H. L.—If you want a cheap and reliable lens you cannot do better than buy No. 1.

T. L. BUCK.—Your communication appears, and some rather strong comments upon "the situation" from our pen.

W. G.—Such lantern slides are not eligible. **MARTIN J. HARDING.**—We are not giving the awards. Shall hope to see you Thursday or Friday when you call.

J. H. STARBUCK.—Thank you. Our publishers will see Messrs. W. H. Smith and Sons upon the subject.

W. P. P.—The lenses B and D are both well suited for your purpose. Both are admirable lenses.

J. L. D. GRANT.—Yes. Your list of extra numbers is correct.

ELECTRA.—We do not know the gentleman in question, and should advise you to have the apparatus on approval before you buy. The apparatus is good of its kind. So is the lens which you name; but at the same time not to be compared to those of the older makers referred to in your letter. You should aim at a short-focus R.R.

Sale and Exchange.

RULES.—Four penny stamps for twelve words or less and one for every additional three words, must be enclosed with each advertisement, together with the name and address of the sender, which must be paid for, and sent to Hazell, Watson, and Viney, Ltd., 1, Creed Lane, Ludgate Hill. A single figure, or group of figures undivided by letter, space, stop, or wd counts as one word; compound words count as two words.

DEPOSITS.

Deposits for goods to be forwarded on approval may be made with our Publishers, who will hold the amounts deposited until they are satisfied that the transaction has been executed to the satisfaction of both parties. Cheques and Post Office Orders should be made payable to Hazell, Watson, and Viney, Ltd. A nominal charge 1s. is made of whether a sale is effected or not.

N.B.—Trade Advertisements cannot, under any circumstances, be inserted in this column. Such advertisements can be inserted elsewhere at the Trade Scale, which may be obtained on application to Parry and Crawford, 1, Creed Lane, Ludgate Hill, London, E.C.

"Amateur Photographer."—100 latest numbers AMATEUR PHOTOGRAPHER, 20 "Year Books," offers requested.—P. Bass, 65, Crocus Street, Nottingham. 30 consecutive numbers of AMATEUR PHOTOGRAPHER up to date; what offers?—Wallis, Iron Gate, Derby.

"Amateur Photographer," etc.—AMATEUR PHOTOGRAPHER, vols. vii. and viii. (viii. leather-bound), containing Wall's "Dictionary," vols. ix. and x. containing Robinson's valuable articles, illustrated; "Photography," vol. i.; "Year Book," 1888 and 1889; perfect; offers.—Weare, 5, Kingsland Road, Birkenhead.

Bicycle.—1890 Diamond Safety; list price, £15; all extras; £7 7s.—Potter, Cyclist, 2, Peter's Street, Norwich.

Burnisher.—Half-plate burnisher, with spirit lamp, complete; 9s.—M., 257, Fulham Road.

Cameras.—7½ by 5 camera (by Scott), three double backs, and canvas waterproof case, all in good condition; price £5.—B., Clifton Hill, Garstang.

Kodak, never been used, 100 films, perfect, three guineas; wanted, 7½ by 5 Eastman roll-holder.—Shaw, 5, Great Ancoats Street, Manchester.

Lancaster's half-plate Instantograph, reversing back, instantaneous lens, Iris diaphragms, shutter, two double backs in solid leather lock-up case, patent universal stand in case, price £4 15s.; Diamond detective camera for 12 plates, in leather case, shoulder strap, new, 32s. 6d.—J. Cass, 7, Cocker Street, Blackpool.

Cameras, etc.—Half-plate camera and three double backs, all best make; price £3 lowest.—V. A. G., 20, Pembroke Road, Kensington.

Turnbull's detective camera, price £2 10s.; Kershaw's shutter, for whole-plate lens, 10s.; Reynolds and Branson's Phoenix shutter, whole-plate lens, 6s.—Wratislaw, Braunston, Rugby.

Half-plate Kinnear camera and three double slides, Ross's 8 by 5 R.S. lens, in perfect condition, Aptus W.A. lens, quite new, both in leather cases, Newman's shutter, almost new, and in perfect order, solid leather case to hold the lot, and mahogany tripod stand; cost £18; price £11.—Ponting, National Provincial Bank, Liverpool.

"English Mechanic."—Vols. xvi. and xvii. "English Mechanic," complete, unbound, clean;

what offers in photographic goods or cash?—Gould 12, Paragon, Streatham Hill.

Lanterns.—Archer's Photinus, complete in case, four-wick patent lamp, 4 in. condensers, new last November; price, cash, £4; bargain.—Harrison, Registrar, Warrington.

8 in. enlarging lantern, complete; also head-rest with motions, new, by Lancaster; £3 10s.—Green, Aston Road North, Birmingham.

Lenses.—Splendid half rapid rectilinear lens; 2½s.; bargain.—Bull, 5, Alvey Street, Walworth.

Whole-plate portrait lens (Marion's), good as new; price £3; approval.—Simmons, Phoenix, Liskeard.

Ross's No. 3 portrait lens, 3½ in. diameter, 10 in. focus, for cabinets, or with stop for whole-plate; cost £17 10s.; price £7 10s.; Dallmeyer's 2B, £7; 1B, 70s.—Pedder, Gold Hill, Gerrard's Cross, Slough.

Very rapid cabinet portrait lens and stops; 30s.; bargain.—Taylor, G adstone Terrace, Worsley.

Half best view lens (Taylor and Hobson), nearly new; 20s.; or good quarter set.—61, Gayhurst Road, Hackney.

Lenses, etc.—Triplet lens, 15 in. focus, six diaphragms, £2, or exchange for good quarter set, lantern, or offers; also two gas bags, pressure boards, retort purifier, good order, cheap for cash.—Kerrigan, 128, Dalmarock Road, Glasgow.

Lancaster's quarter Instantograph lens and shutter, Iris diaphragms, two fold tripod, Rubralux lamp and burnisher; 25s.—Staveley, 57, Barbican, E.C.

Model.—Handsome old-fashioned model war ship, suit captain; price £14.—Burt, 67, Forest Road, Dalston.

Negatives.—20 half-plate negatives, landscapes, churches, etc., for transparencies; samples 1s. each.—Simmons, 3, Waterfall, Lower Tooting.

Organ.—American organ, most handsomely finished, superb tone, 16 stops, 2 swells, 9 sets reeds, 29 decorated pipes; price 32 guineas.—Burt, 67, Forest Road, Dalston.

Sets.—Quarter-plate camera (rack and pinion for focussing), B.R. lens, four double backs, all by Stereoscopic Company, and in good working order; £2 5s.—R. Heath, Leighton Buzzard.

Half-plate Universal camera, three double backs, reversible, Plumb indicators, detective case, fitted with Thornton-Pickard shutter, fourfold tripod, double extension, three B Suter lens, new, cost £18 18s.; price £12 12s.—6, Montford Place, Kennington Green.

Lancaster's half-plate Instantograph 1889, two double dark slides, instantaneous shutter, and tripod, complete; £2 10s., open to offers.—Cummins, 19, Shepherd's Bush Road, W.

Half-plate set, very light compact camera, long extension, swing back and front, fitted spirit level, capital lens, Marion's rapid rectilinear, one mahogany and three metal dark slides, drop shutter, leather case, Watson's 30s. cyclists' tripod, three dishes, and practical instruction if desired, a great bargain; £5 10s.—T. Edwards, 83, Chesterton Road, North Kensington, W.

Lancaster quarter-plate International camera, tripod, four metal slides, good condition, Optimus 5 by 4 R.R. lens, new; £3, or exchange, with cash, for half-plate set, mutual approval.—D., 44, Malvern Hill Road, Birmingham.

Lancaster's 1888 Instantograph camera and tripod stand, with case complete, also Optimus plunge shutter to fit half-plate lens; 80s.—Apply Photo, 8, Cobham Street, Gravesend.

9 by 7 Ross rapid symmetrical, in new condition; £5 5s. 8½ by 6½ ditto; £4 15s. 10 by 8 Dallmeyer triplet; 75s. Ross's 7½ by 4½ camera, one double back, division for stereos, swing back, rising front, etc., with Burr rapid lens, in leather case; £4. Wanted, battery of Ross's portable symmetrical

lenses, from 3 in. to 8 in. focus.—Collins, Chalfont, Slough.

Optimus whole-plate long extension square camera, all movements, stereo partition, three double backs, Hare's changing box to fit, patent tripod sliding legs; £8. Also Shew's half-plate eclipse hand camera, six double backs, leather case; £7 10s. Also Hughes' enlarging apparatus for 10 by 8 negatives, lime light jet, and oxygen cylinder, special combination lens, only used a few times, cost £32 odd; will sell cheap.—Apply C., care of Housekeeper, 93, Bishopsgate Street, London, E.C.

Studio.—New, made in sections, easily removed, splendid lighting; cash or exchange, jewellery preferred.—A. Jaques, 8, Rettleton's Road, New Cross, London.

Shutter.—Mahogany drop shutter, new, adjustable, fit 2 in. hood or larger, cost 11s. 6d.; 6s.—Wallis, Ingrave, Derby.

WANTED.

"Amateur Photographer."—No. 173 (March 2nd, 1888), AMATEUR PHOTOGRAPHER.—Photographic Society, Dulwich College.

Apparatus.—A photographer, about to open a branch studio, would like to hear from anyone having anything good and cheap for sale in connection with the art.—Address, Thompson, Photographer, Omagh, Ireland.

Cameras.—Lancaster's 1889 Instantograph, half-plate, complete, in good condition.—Stute lowest price to Joy, Boston Road, Hanwell.

Half Instantograph; exchange half Meritoire complete, and 64 in. bicycle, worth 70s.—Battell, 66 Milton Road, Hoe Street, Walthamstow.

Shew's Eclipse hand-camera, with changing back; 5 by 4 or half-plate preferred.—E. T. Wood, 18, Barbican, London.

Quarter or half-plate camera, cheap, for cash; long-focus preferred.—S., 178, St. John Street Road, Clerkenwell.

Camera, etc.—Whole-plate camera, double extension, reversing back, with or without slides (old pattern no objection), cheap.—Charles Smallridge, Ivy Bridge.

Lenses.—Quarter-plate wide-angle doublet lens, in good condition, cheap.—John Wilson, Glenarm, North Ireland.

Short-focus lens, Rectigraph preferred, for use in quarter-plate detective camera.—F. Hutchins, 66, Peckham Road, London.

Good half-plate W.A. rectilinear lens.—John E. Pim, Bonaven, Antrim Road, Belfast.

Optimus W.A. lens, half-plate, 4½ in. focus; approval; deposit.—Francis B. Williams, Corris, North Wales.

Good cheap 5 by 4 or quarter lens, fixed focus, for hand-camera, single, achromatic or doublet.—Dearden, Thorn Bank, Giltow, Bolton.

Prints.—Loan of quarter-plate specimen prints by Taylor's 5 in. 3D detective lens, taken with largest stop/f5.8, for examination of definition only.—W. K., 91, Turton Street, Bolton.

Set.—Tourists' modern photographic apparatus, complete, half or whole plate; full particulars and lowest price for cash; say if would take splendid binocular lantern part exchange.—M., 77, Queen Victoria Street, E.C.

Shutter.—Kershaw shutter, 2½ in. diameter.—Digges, William Street, Cheetham Hill, Manchester.

Slides.—Three Tylar's half-plate slides, perfect condition, in exchange for Lancaster's half-plate 1889 Instantograph slide.—Fred Fenwick, Fern Avenue, Newcastle.

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NOTICES TO SUBSCRIBERS.

Subscriptions must be prepaid.

UNITED KINGDOM	Six Months, 5s. 6d.	Twelve Months, 10s. 10d.
POSTAL UNION	" 6s. 6d.	" 12s. 0d.
INDIA, CHINA, ETC.	" 7s. 9d.	" 15s. 3d.

NOTICES AS TO ADDRESS.

PUBLISHING DEPARTMENT.—All letters containing Subscriptions, Orders, Remittances, SALE AND EXCHANGE Advertisements, or other business matters for the **Amateur Photographer** are to be addressed to the Publishers, HAZELL, WATSON, AND VINEY, LD., 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

NOTE.—SALE AND EXCHANGE Advertisements, at the charge of Three Words for One Penny, can be received as late as WEDNESDAY MORNING.

ADVERTISEMENT DEPARTMENT.—All communications respecting TRADE Advertisements in the **Amateur Photographer** are to be addressed to PARRY AND CRAWFORD, 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

NOTE.—Trade Advertisements are received up to Tuesday morning.

EDITORIAL DEPARTMENT.—All Literary Contributions, Queries and Answers, Photographs for Competition or Criticism, Books or Apparatus for Notice or Review are to be addressed to the Editors, **Amateur Photographer**, 1, Creed Lane, Ludgate Hill, London, E.C.

NOTE.—To ensure insertion all Communications should reach the Editors on Tuesday.

THE FORTH BRIDGE.

In view of the interest taken by all engineers, students, and others in the Forth Bridge as a triumph of engineering skill, the proprietors of the **AMATEUR PHOTOGRAPHER** have pleasure in offering the following Prizes for the Best and Second Best Set of Four Photographs:—

First Prize ... Silver Medal and £1 1s. 0d.
Second Prize ... Bronze Medal and 10s. 6d.

Photographs must be sent in on or before Monday, the 10th of March. This date will permit of photographs of the Opening Ceremony, which is to be performed by H.R.H. the Prince of Wales on the 4th of March.

The proprietors will require the use of the negatives of the prize photographs. If any competitors are willing to leave their prints in the hands of the Editors of the **AMATEUR PHOTOGRAPHER**, they will have pleasure in circulating them amongst the photographic societies.

All Competitions to be addressed:—"Forth Bridge Competition," The Editors, **Amateur Photographer**, 1, Creed Lane, Ludgate Hill, London, E.C.

"AMATEUR PHOTOGRAPHER" LANTERN SLIDE COMPETITION

(SECOND YEAR).

PRIZES.

"AMATEUR PHOTOGRAPHER" GOLD MEDAL

FOR THE MOST ARTISTIC SET OF FOUR SLIDES.

CLASS I.—GELATINE PROCESS:—

FIRST PRIZE		SILVER MEDAL AND	£2 2 0
SECOND "		BRONZE "	1 1 0
THIRD "		CERTIFICATE "	0 10 6

CLASS II.—COLLODION PROCESS:—

FIRST PRIZE		SILVER MEDAL AND	£2 2 0
SECOND "		BRONZE "	1 1 0
THIRD "		CERTIFICATE "	0 10 6

Competitors may enter in either of the above Classes, and may select any or all of the following subjects for Competition, not less than four Slides being sent for each subject.

SUBJECTS.

- | | |
|---|--|
| (a) Landscape (with or without Figures). | (e) Architecture (Exterior or Interior). |
| (b) River Scenes (Waterfalls, etc.). | (f) Animals (Instantaneous Studies). |
| (c) Seascapes (Marine Studies, including Shipping, etc.). | (g) Scientific (Microscopical, Astronomical, Botanical, Geological, etc.). |
| (d) Figure Studies, Genre Pictures (Village Life, etc.). | |

All Slides must be received on or before the 14th day of February, 1890.

The Slides, or a selection of them, will be exhibited, by kind permission of the Crystal Palace Company, at the Photographic Exhibition to be held at the Palace in March next.

All Competitors will receive a FREE TICKET for the Exhibition and the Lantern Show, to admit self and friend. Due notice will be given when the date is fixed.

All Slides must be carefully packed, and must be received on or before the 14TH OF FEBRUARY, 1890, endorsed—"Lantern Slide Competition," The Editors, "AMATEUR PHOTOGRAPHER," 1, Creed Lane, Ludgate Hill, London, E.C.

Rules, Conditions, and Entry Forms will be forwarded on receipt of stamped addressed envelope addressed to the Editors: "AMATEUR PHOTOGRAPHER," 1, Creed Lane, Ludgate Hill, London, E.C.

"AMATEUR PHOTOGRAPHER" PRIZE TOUR COMPETITION, 1890.

(FIFTH YEAR)

PRIZES.

First Prize—"AMATEUR PHOTOGRAPHER" GOLD MEDAL.

Second Prize	-	£4 4 0 and Silver Medal.	Sixth Prize	-	£2 2 0 and Bronze Medal.
Third	..	3 13 6	Seventh	..	1 11 6
Fourth	..	3 3 0	Eighth	..	1 1 0 and Certificate.
Fifth	..	2 12 6 and Bronze	Ninth	..	0 15 0
Tenth Prize			- £0 10 6 and Certificate.		

Photographs entered for this Competition will be Exhibited at the Crystal Palace, FREE OF CHARGE.

All Photographs and MSS. must be endorsed "Prize Tour Competition," and addressed to the Editors, **AMATEUR PHOTOGRAPHER, 1, Creed Lane, Ludgate Hill, London, E.C., on or before the 28th of February, 1890.**

Rules, Competitor's Form, and Form of Declaration will be sent on application to Editors, as above.

THE AMATEUR PHOTOGRAPHER

Editors:—CHARLES W. HASTINGS & T. C. HEPWORTH, F.C.S.

TELEPHONE
No. 1645.

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TELEGRAPHIC ADDRESS,
"VINEY, LONDON."

VOL. XI. No. 280.]

FRIDAY, FEBRUARY 14, 1890.

[PRICE TWOPENCE.

OUR VIEWS.

"To hold as 'twere the mirror up to nature."—*Shakespeare*

WE publish a letter from Mr. H. Maclean, F.G.S., with regard to the formation of the Croydon Camera Club. It sets forth the objects of the Club and the prospects of success. A meeting will be held very shortly, and Mr. Maclean will be glad to hear from all intending subscribers. We have already spoken in no uncertain voice as to the desirability of establishing a Club at Croydon, and shall be very pleased to support the movement by any means in our power. We have written to Mr. Maclean offering the AMATEUR PHOTOGRAPHER Silver and Bronze medals, for competition by members of the Club, when formed, who are amateur photographers. There should be no difficulty in enrolling from fifty to a hundred amateur workers, and we wish the scheme every possible success.

* * * *

THE Secretary of the West Surrey Amateur Photographic Society announces that it is intended to hold an exhibition of members' work on the evenings of March 26th, 27th, and 28th. This Society is quite one of the best of the suburban amateur photographic societies, and has the advantage of the support and counsel of Mr. J. Gale and Mr. George Davison. Amateur photographers living in the district should assist by becoming members.

* * * *

WITH regard to the assertions made by us last week as to the dishonesty of professional photographers, we find in the editorial columns of our esteemed contemporary, the *British Journal of Photography*, of the 7th inst., our views strongly supported by the following paragraph:—

"For a long time past photographs have been looked upon with distrust in the Law Courts, and in the Divorce Court in particular they are refused as evidence of identity. But this, apparently, only applies to the London Court, for, according to the newspaper reports, in a divorce suit recently tried in Scotland photographs were admitted as proof of identification. Scotch and English judges evidently hold different opinions with regard to the integrity of photography. There can be no question that since retouching—or what passes by the name—has been carried to its present extent, the public are decidedly losing confidence in the truthfulness of photography, so far at least as portraiture is concerned."

Cannot professional photographers be taught to understand that the public are gifted with common sense, and that sooner or later, as our contemporary sees, they will lose confidence in the truthfulness of photographs, and will refuse to accept as portraits the inane, vapid, and meaningless "things" that are handed over by the "art" photographer as counterfeit presentments of their sitters? Such things must obtain, so long as retouching the negative is permitted to be done by persons usually having had no art training, and who have never in their life seen the subject whose features have been translated by the lens on to the sensitive plate. If retouching is permissible, it should be done by a person having been trained and well versed in art principles, and with the subject *present* whilst the work is being done; we may then arrive at something like a perfect portrait by photography, assisted by the few 'softening touches' that are required from the pencil of an artist. So long as negatives by the score, many of them possessing all the faults a negative is heir to, are sent to professional retouchers having little or no knowledge of art or of any of the peculiarities of form and feature of the sitters, and who employ uneducated girls to "work up" each negative on identically the "same lines," so long will photography be untruthful, and misrepresent the reality of nature, and represent in all its glaring reality the "art" of retouching.

THE AMATEUR PHOTOGRAPHER has stopped professional retouching as far as work entered for competition for their medals goes, and in the amateur section of all well-regulated exhibitions care is taken that if any retouching is done it shall be the work of the exhibitor. We do not defend even this concession, but the exhibitor has at least a feeling in the matter, and has seen the sitter, the subject, or the view, and will not obtrude the work of retouching. The professional retoucher has no such compunction, and has succeeded in teaching the public that a photographer is untruthful. As a collection of truthful photographs, we should imagine those taken within the precincts of Her Majesty's prisons are the only ones extant. We do not and never have encouraged amateur photographers to go in for taking portraits, it would be an interference

For Contents, Prize Competitions, Notices, etc., see page 111.

with trade, but we do hope the many professional photographers who we know read, and we hope profit by, this journal will take our remarks to heart and no longer allow their own organ, the *British Journal*, to be able to say that "The public are losing confidence in the truthfulness of photography, so far at least as portraiture is concerned."

Many of us laugh at the ungainliness of those photographs taken twenty or even twenty-five years ago, which every one possesses, and which are hid away, and too often passed over, in the family album; but they were truthful and did not fade and within a few months possess not the slightest resemblance to the sitters, as is too often the case with the majority of the work done by the so-called "art" photographer.

* * * *

THE Manchester Amateur Photographic Society show a capital record for the year 1889 in the annual report which has just been published. The Society is the largest of the kind in the United Kingdom, "and is still growing," no less than twenty-three being up for election last Tuesday. The Society has now 293 members. The accounts show a balance in hand of £44 8s. 10d. The Society's Journal continues to be a success, and is conducted with considerable ability. Many books have been added to the library. During the year many papers have been read, demonstrations given, and lantern exhibitions held; many excursions have been taken, and much good work done. A photographic exhibition was opened on Thursday last, continuing over Friday and Saturday. On the evenings of both days lantern exhibitions were arranged. All the prints, transparencies, stereoscopic prints, lantern slides, etc., must be the members' own work. The lantern slides must not only be the members' own work, but must not have been exhibited at any previous exhibition of the Society. Other societies, please take note.

* * * *

DURING the last few years the name of Walery has become familiar to all those interested in photography, and the head of that firm, Count Ostrorog Walery, has done much to elevate portrait photography. His ability as a photographer was soon recognised after he started in business in London in 1883. The investing public have now an opportunity offered them of participating in the business, or rather they are asked to find £37,000 to purchase the opportunity of participating in the profits, which are stated to have been large.

* * * *

A CORRESPONDENT, honorary secretary of an important photographic society, writes us, "I quite agree with you that amateurs and professionals should not be classed together, as I consider every picture they send out has had four or five specialists at work on it, and consequently an amateur would have to compete with four or five persons instead of one; so I hope you will continue strong on that point."

* * * *

THE Stereoscopic Slides contributed to the recent AMATEUR PHOTOGRAPHER Competition will be on show at our offices, 1, Creed Lane, on Wednesday evening next, the 19th inst., from 7 till 10 p.m. We shall hope to be present during the whole of the evening, and shall be glad

to welcome all interested in stereoscopic photography, and we hope many who have not yet taken up stereography will embrace the opportunity of inspecting the slides. Some advances have been made through our competitions, as we understand one maker alone has sold upwards of 200 stereoscopic cameras during the last twelve months or so.

* * * *

WE would again remind intending competitors that the Lantern Slides for our Competition must be forwarded to us by the 14th inst. They will be judged, as far as present arrangements have been made, on Friday, the 21st inst., and the awards published in the AMATEUR PHOTOGRAPHER of the 28th inst.

* * * *

OUR criticism on the Royton Photographic Exhibition is delayed, but will be published, we hope, in our next issue. We understand that as a whole the exhibition is a pronounced success. But we are surprised to find, out of some 107 exhibitors, 25 only are resident in Lancashire, made up of 14 from Oldham, Royton, and district, 9 from Liverpool, and 2 from Manchester. We will leave further comment until next week.

* * * *

THE Stockton Photographic Society will hold their third annual conversazione on the 25th inst., upon which occasion there will be a photographic competition. The silver and bronze medal of the AMATEUR PHOTOGRAPHER are offered, also the President's gold medal, silver medal for lantern slides, bronze medal for enlargements, and a bronze medal open to members and non-members of the Society.

* * * *

WE note that, mainly through the exertions of their able and clever Hon. Secretary, Mr. Ernest Beck, the Sheffield Photographic Society announce a grand exhibition of lantern slides to be given on Thursday, the 27th inst. The object for which the exhibition is held is, primarily, to show the public "local views and gems of English scenery" by means of lantern slides made chiefly from the negatives taken by members of the Society. We might add that not only does the Society possess the services of an energetic Hon. Secretary in the person of Mr. Beck, but they have reason to be proud of his achievements as an exhibitor at recent exhibitions. There are also many other members who have shown good work, and they have only to study and persevere, and to stand side by side with Mr. Beck.

* * * *

PHOSPHORESCENT PHOTOGRAPHS.

AMONG the innumerable letters which reach our editorial office have lately been two or three asking for information regarding the production of photographic pictures which will shine by their own luminosity in a dark room, and about which the writers seem to think that a kind of mystery must hang. Such pictures have been prepared as curiosities, and we fancy that if they were more common they would meet with a wide sale. But there is no real mystery about them, for they consist merely of transparencies on glass, which are framed with a backing covered with Canton's phosphorus, which, under the name of Balmain's luminous paint, has become somewhat familiar in various employments during the past few years.

Phosphorescence is a curious condition of matter of which

we can find examples in the animal, vegetable, and mineral kingdoms. The glowworm, petted of the poets, is of course the most familiar example to which we can point, if we except the sea, the luminosity of which was often commented on by the oldest writers, who endeavoured to explain it in many curious ways. Thus an old writer states that the ocean absorbs part of the sun's rays, and gives them up again in the dark hours. Even such a distinguished scientist as Robert Boyle attributed the strange light to the friction caused by the waves rubbing against the atmosphere. It is now well known that the beautiful sheen upon the sea is due to a minute organism, the *noctiluca miliaris*—at least, this is the origin of the phosphorescence on our own coasts. But many different self-luminous infusoria contribute to the more splendid effects often noted in warmer latitudes. Earthworms and other creeping creatures have occasionally been observed by naturalists to assume a luminous condition. In the vegetable kingdom some plants will, under peculiar conditions, become luminous, and it is the characteristic of certain cryptogamic plants which are found in the Swedish mines, and also of a red mushroom which grows in Italy at the foot of the olive trees. Canton's phosphorus is a product of the mineral kingdom, and its discovery is comprised in one of those fairy stories of science which are only unlike ordinary fairy stories in being actually true.

The story dates back to the commencement of the seventeenth century—that age of belief in wonders—a period when the philosopher's stone was no fable, but a reality to all men—after which so many strived in their haste to be rich—in the pursuit of which useful labour was cast aside, money was squandered, and life itself sacrificed by so many credulous men. The discovery of the first phosphorescent mineral substance was, in fact, due to a searcher after that myth, and is one of the many instances in which its pursuit led to the knowledge of something else which was destined to be of future use to mankind. We might, without exaggeration, parody Voltaire's well-known aphorism, and say that if a belief in the philosopher's stone had not existed, it would have been necessary to inculcate one, so much richer has the world become by the useful discoveries to which its pursuit led.

The discoverer in this instance was a son of St. Crispin whose mind soared above boots and shoes, and constantly dwelt upon the possibility of finding the mythical treasure. His name was Cascariolo, and he was a native of the city of Bologna. Walking in the vicinity of the city one day, his eye lighted upon a stone which seemed to him to have a sufficiently remarkable appearance to justify him in taking it home for more careful examination. Arrived there, he soon displaced the implements of his trade, lighted a fire, and upon it placed a crucible, in which he threw his newly-found treasure, together with some charcoal. He watched this cooking operation with some anxiety, fondly hoping that when the crucible became cold he would find a button of gold beneath the dross within it. There was no gold, but a change had occurred in the piece of stone—it had become phosphorescent. In a word, the mineral which he had picked up was a piece of heavy spar, or sulphate of barium. Its heaviness had probably attracted his cupidity in the first instance, and by calcining it with charcoal he had transformed it into sulphide of barium—a now well-known phosphorescent substance—which is still

sold in the streets of Bologna as a curiosity, and is called Bologna stone.

It is to Becquerel, who invented an instrument called the phosphoroscope, that we are indebted for much knowledge concerning phosphorescent substances. Canton's phosphorus is analogous to Bologna stone, only it is produced from calcium instead of barium. It can easily be prepared by calcining oyster shells in the presence of sulphur, when sulphide of calcium results. This is the basis of Balmain's luminous paint, but there are doubtless trade secrets in its preparation which add greatly to its effectiveness. The substance is mixed with varnish, and then assumes the form of a paint which may be applied to any suitable surface. Gum is sufficient to bind its particles together, and this would be the medium employed for covering cardboard with it as a backing for transparent photographs. One disadvantage in the preparation is that it seems to undergo partial decomposition, and in doing so gradually deteriorates, giving off fumes of sulphuretted hydrogen. It is therefore wise to protect the photographic film with a coating of varnish, and to keep the glass side of the picture next the composition. The phosphorescence can at any time be aroused by exposure to daylight, or to the rays of burning magnesium. Those amateurs who are fond of experiment may find much amusement for themselves and their friends in the production of these luminous photographs.

Letters to the Editors.

COPYING.

SIRS,—Since the above has appeared in your columns, I take the opportunity of giving my own experience on the subject. I shall first begin with line-work—such as engineering drawings, etc.—this branch being about the most difficult. In this case it is imperative to use a *slow* plate; stop the lens down to about $f/24$, and give a long exposure. The best plate to use is Mawson's photo-mechanical, giving an exposure of from six to ten minutes, in a well-lighted glass house (which is the best place to do this kind of work in). Use a developer strong in pyro (about three to four grains to ounce of water), and well restrain with amm. brom., and use less ammonia solution than if developing an ordinary negative. It is in some cases preferable to use a more rapid plate than the one mentioned, and I have found Fry's *slow* bromide plate to answer perfectly; but if these are used, they will only require about one-fourth the exposure of those previously mentioned, under the same conditions. They will also require greater care in development. The developer in this case should contain more pyro solution than ammonia, and a few drops of a 60 per cent. solution of amm. brom.; it should also be diluted to half its bulk with water. Development will be slow, but if sufficient density is not obtained in the high lights (in this case, the white paper of the drawing), ten minutes after the application of developer, add a fresh quantity, the same proportions as before; but *undiluted*, which in most cases will be sufficient to increase density.

The object to aim at is, to avoid the veiling and blocking up of the lines composing the drawing, which should be clear glass in the negative, and great density in the high lights; and this can only be done by using ammonia very sparingly.

In copying photographs on albumen paper the (day) light must be softened by filtering through white linen, so as to avoid reflection of light from the gloss of the print, and a *slow* bromide plate used; lens stopped down, and a long exposure given. Develop tentatively as before, but with *equal* quantities of pyro and amm. restrained with brom. amm., and diluted to half its bulk with water, and proceed as before-mentioned, adding fresh developer undiluted, if sufficient density is not obtained with the first. Yellow,

faded prints should be copied at night, and the best way to illuminate prints is to throw light on print through a condenser with an ordinary oil lantern. Use a *rapid* plate (isochromatic the best), stop lens down to $f/16$, and give about four minutes' exposure, and develop as in the previous case. In copying coloured pictures, orthochromatic plates are best; and these are best copied by daylight; develop tentatively with a weak developer, so as to obtain gradation.

In all these cases it will be seen that tentative development is the *sine quâ non*. It is essential that all pictures to be copied should be flat and at right angles to the axis of the lens; and the best way to ascertain this is set up the camera in position and focus the size required, then attach one end of a string to centre of cap, and a pencil or piece of chalk to the other end, put cap on lens, and extend this with the hand towards the picture to be copied, so that the string is tight when the pencil touches the picture, and if the picture is in the right plane, the pencil will touch every part of the picture equally, by moving the pencil round the surface of the picture. Don't copy the picture till this is obtained. I have not mentioned any particular developing formula, as any good *pyro* formula will answer well, mixed in the way I have described.

I have now several lantern-slides which I have made from copies done in the way I have described, which show equal in definition, etc. (on a 10 ft. screen), as direct takings. I should be pleased to show these to any one wishing to see them, by appointing an evening with me, by letter; address with Editors.—Yours faithfully,

February 1st, 1890.

G. GORDON.

* * * *

IS HYDROQUINONE POISONOUS?

SIRS,—A letter on this subject appeared in the *AMATEUR PHOTOGRAPHER* for January 10th last, and I have waited to see some remarks upon the subject. Nothing has appeared yet, so I am wondering if your correspondent has been the only one who has found any baneful effect from the use of the chemical in question.

Some time ago I noticed that one of the journals spoke of hydroquinone having a poisonous action, and probably this is the statement to which "A Victim" refers. A short time after this I also read a counter statement to the effect that the makers of the chemical had found no toxic effect among their work-people.

Among the many hundreds of my own correspondents I have not had one suggestion that the popular developer was injurious in the slightest degree; yet I saw some time back that a gentleman had experienced untoward results from using this chemical, and as the *Photographic News* mentioned his name, I wrote to him on the matter. In reply, he very kindly gave the full details, and gave the facts of his case, which was practically the same as your correspondent's. Possibly they may be one and the same. At any rate, I have been on the look-out since for any information that will throw light upon the subject, the more so as I hoped to be able to explain the cause of the affection which the gentleman I refer to had suffered from.

The mystery about hydroquinone, and its action on the skin, may be explained on the ground of the "special idiosyncrasy" of the individual. I am inclined to this belief from the fact that hydroquinone is used as a medicine internally as an antipyretic and antiseptic. Martindale's *Pharmacopœia* states that "gramme doses cause symptoms of excitement like resorciné. It causes no local irritation injected hypodermically, is particularly suitable as an antiseptic in eye operations, etc., and does not irritate the conjunctiva or cornea."

Dr. J. Mitchell Bruce, in his "Materia Medica," and Dr. Whittall give the dose of hydroquinone as from 10 to 15 grs. It is interesting to notice that *pyro* (our old friend) is sometimes employed in medicine, but the dose is only from $\frac{1}{2}$ to 1½ grs. ! This should speak well for hydroquinone, surely !

In conclusion, I need only point out that as hydroquinone is said to cause no local irritation, and does not irritate the extremely delicate membrane of the eye ("conjunctiva"), we ought to be able to feel pretty safe in using the developer. It may be that the other ingredients of the solution used form some deleterious compound that is injurious, but if this be so, and apart from the idiosyncrasy of individuals, we shall surely hear of it.—Yours faithfully,

C. HERTON LEWIS.

P.S.—I fully sympathise with your correspondent, and if not entirely recovered yet, I can give some further information as to cure, if I hear further.

DISCS OF GLASS AS CONDENSERS.

SIRS,—In your issue of last Friday I notice that your correspondent Mr. W. L. Groves is in difficulty about his condensers. With your permission I will endeavour to describe a method by which I dispense with condensers altogether, using magnesium as the source of light, and ground glass to distribute it evenly over the surface of the negative. I can enlarge from any size negative, from quarter-plate upwards. I will assume that your correspondent knows the way to develop bromide paper, etc., and that it is essential to use a lens that will cover an area quite sharply as large as the negative, or, in other words, that the lens used to enlarge with may with advantage be the one the negative was taken with. My plan is briefly as follows:—I have a box the dimensions of which are, height 2 ft. 6 ins., width 2 ft., depth from front to back 2 ft. 9 in. In my case the box is of wood, but I would suggest as an improvement that it be of tin or sheet iron. The back is fitted with a door nearly as large as the back itself—this door must fit quite light-tight; the front is fitted with carriers to take all size negatives in general use; the top must always be of stout tin or iron, and fitted with a chimney, which will not let any rays of light escape, as this would fog your bromide paper. At the side of the box, about midway between back and front, drill a hole, and this hole must be also midway between the top and bottom of box, so that when a piece of brass tube is pushed through the hole the end of it may be opposite the centre of any negative that may be in the carrier at the time. The length of brass tube should be about 1 ft. 9 ins., and the diameter a little larger than ordinary magnesium ribbon, in order that when the ribbon is being pushed through, it shall not stick and refuse to pass. There must be a little peep-hole in the side of box a little above the hole where the tube goes through. This peep-hole must be of ruby glass, through which the progress of the combustion of the ribbon can be seen.

The enlarging camera must fit closely up to this box, and take care that the lens is in a line with the centre of negative, otherwise there will be unequal definition in the resulting print. Now, for focussing it is necessary to use a good powerful duplex paraffin lamp; this is to be placed inside the box, and should have a silvered concave reflector behind it to concentrate light on negative. Of course, the light will not be diffused evenly, but it will do well enough to focus with. A piece of ground-glass rather larger than the negative to be enlarged from must be placed behind negative about one and a half inches. Having focussed the image on a piece of plain paper, take away lamp, and place a small glass spirit lamp in its stead. Now pin up the bromide paper, and commence exposure by pushing one end of a coil of magnesium ribbon through the brass tube which should be in the hole in side of box. As soon as the ribbon touches the spirit flame it will generally begin to burn. The ticklish part of the business now commences. The tube must be moved about upwards and downwards and to and fro, in order that the light may not settle in one place and so produce a dark mark. There is, however, an exception to the above. Supposing I am enlarging from a negative in which the sky is much over-exposed and too dense to print clouds which may really exist there, then the light should be kept moving just in front of the dense part and slightly nearer to the negative than for the exposure of the thinner parts. If the hole through which the tube goes is large enough, there is, of course, a universal movement, and the tube can be brought nearer or farther from negative, also up or down or sideways. I can easily observe from the side of box how the light is being distributed, as it shows plainly on the bromide paper. After one or two trials using only plain paper, your correspondent will doubtless become dexterous in the use of this enlarging box, which I may say I have not seen before described in any journal. If any further particulars are required I shall be pleased to answer any questions that your correspondent may think fit to ask.—I am, sir, faithfully yours,

February 10, 1890.

FREDK. W. MUNCEY.

* * * *

HAND CAMERAS.

SIRS,—At Easter I intend going to Italy, and shall be obliged if some of your correspondents will inform me as to their experiences with hand cameras which they have used, especially the disadvantages, and also what they consider the best size plates for such cameras.

Last year I used a Kodak with success. It was light and handy, always available, and required no adjustment, but it

gives very small pictures, and I am a very poor hand at stripping films.

I think a hand camera should be unobtrusive, light, and always ready for use; the shutter should be available both for instantaneous and time exposure. If with plates, it should be able to give at least a dozen exposures, with a re-lay if necessary.

—Yours obediently,

LEWIS M. BIDEN.

* * * *

CROYDON CAMERA CLUB.

SIRS,—I send you a few lines to say that the proposed Croydon Camera Club is making steady progress, and I am now completing arrangements for holding a public meeting of those who favour the movement, when I hope we shall be able to announce the enrolment of a goodly number of members. The date of meeting is not yet fixed, but will most likely be about 27th inst.

Let me again urge upon all who have the interest of photography or their own interest at heart, to strengthen my hands by at once adding their names to the list of those who approve the project.

There are several earnest workers in Croydon who are holding aloof until they see "which way the cat jumps." At present pussy is jumping in the direction of success, and if those above alluded to will take heart and lend their aid, they will "make assurance doubly sure."

I am glad to say that several gentlemen whose avocations connect them with photography are giving the project a hearty support, *e.g.*, Messrs. Wratten and Wainwright write that they will be pleased to do whatever may be in their power to promote the usefulness of the society.

I have several similar cordially worded assurances from other firms, but it is to the amateur that we look for the life and spirit of the society; and as he will reap the chief benefits, let him not, in the days of striving, shirk from giving a hand to those who are working to found this much-needed society. Of course many amateurs are helping, but we want still more.—Yours very faithfully,

H. MACLEAN, F.G.S.

February 10th, 1890.

Chemistry for Photographers.

By C. H. BOTHAMLEY, F.I.C., F.C.S.

(The Yorkshire College, Victoria University).

WEIGHTS AND MEASURES.

(Continued from page 70.)

MEASUREMENT of liquids requires care in order to obtain accuracy. All liquids which wet glass have a concave surface, or *meniscus*, the concavity being greater the narrower the vessel. The reading should be taken from the lower point of the curved surface. Liquids like mercury, which do not wet glass, have, on the contrary, a convex meniscus, and

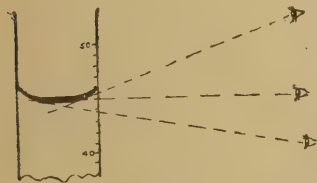


FIG. 8.

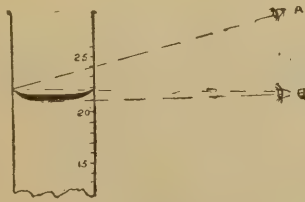


FIG. 9.

the reading is taken from the highest point of the curve. When making a measurement, the vessel containing the liquid must be held or supported in such a way that it is quite perpendicular, and the eye of the observer must be exactly on a level with the meniscus. If the eye is above or below the meniscus, the reading of the graduation will be inaccurate (fig. 8). It is best to start with the eye above

the meniscus, so that the far edge of the liquid is visible (fig. 9, A), and then gradually lower the eye until the front edge of the liquid just cuts off the back edge (fig. 9, B). The eye is then level with the meniscus.

FORMS AND PROPERTIES OF MATTER.

MATTER is anything which occupies space and has weight, or, in other words, anything which has a real objective existence. All the various forms of matter which we see around us are distinguished from one another by differences in their physical properties, such as form, colour, and relative density, and differences in their chemical properties, that is, in their tendency to alter in composition either alone or when brought into contact with other bodies.

Matter is generally said to exist in two states, *solid* and *fluid*; and bodies which exist in the first state are spoken of as *solids*, whilst those which exist in the second state are termed *fluids*. Fluids are subdivided into *liquids* and *gases*.

Solids are characterised by rigidity, which enables them to retain their own shape without any support and to offer more or less resistance to any attempt to alter their shape. The degree of rigidity varies widely; it is very great in the case of iron, less in the case of wood, much less in the case of lead. Solid bodies which have acquired a definite geometric form spontaneously, and without outside mechanical agency, are said to be *crystalline* (Gk., *kryсталλος*, ice); solids which have no definite geometric form and which do not form part of animal or vegetable structures are said to be *amorphous* (Gk., *a*, without; *morphe*, form).

Fluids, on the other hand, have no rigidity, and consequently have no shape of their own, but take up the shape of the vessel in which they are contained. One essential difference between *liquids* (such as water, oil, and alcohol) and *gases* (such as the air or ordinary illuminating gas) is as follows. If a small quantity of a liquid is put into a large vessel, it only partially fills the vessel and there is a distinct line of separation (meniscus) between the part of the vessel which contains the liquid and the part which does not; if, on the other hand, a quantity of gas is introduced into a vessel of any size, whether large or small, the gas in time spreads itself quite uniformly throughout the vessel, and there is no line of separation between a part of the vessel which contains gas and a part which does not. Liquids yield so little to pressure that they are practically incompressible, whilst gases, on the other hand, are readily compressible, but if the pressure is removed resume their original volume. The former are commonly spoken of as *incompressible fluids*, and the latter as *compressible fluids*; this is the second important difference between them.

Liquids differ widely in their degree of fluidity, some, like water, alcohol or ether, being very fluid or *mobile*, whilst others, like glycerine or treacle, are thick and *viscous*, and approach more nearly to solids. The distinction between solids and liquids is one of convenience rather than one which actually exists. There are substances which have some of the properties of liquids and some of the properties of solids (*e.g.*, india-rubber, pitch), and might be placed in the one class just as well as in the other. Solids can, in fact, be converted into liquids, generally by the aid of heat, and *vice versa*; and in a similar manner liquids can be converted into gases, and *vice versa*. In some cases this change is very gradual; in others (and always in the case of liquids and gases) it is very rapid indeed.

Solid bodies differ in form and structure, hardness, colour, opacity to light, odour, relative density, and fusibility. Some melt and become liquid when very gently

heated, others only when very strongly heated, whilst many solids will not melt even when very hot indeed.

EXPERIMENT 3.—Melt about 1 oz. (30 grms.) of sulphur or brimstone in a porcelain crucible or a boiling tube over a low Bunsen flame, stirring it all the time with a glass rod. When about three-quarters of it is melted, carefully introduce into it a chemical thermometer capable of reading to not less than 150° centigrade or 300° Fahrenheit. Continue the heating, stirring the sulphur carefully with the thermometer, and keeping the bulb of the latter immersed in the melted sulphur. If the heating and stirring are properly done, the temperature as indicated by the thermometer will remain the same so long as any of the sulphur remains solid, but as soon as the whole of this is melted, the temperature will begin to rise if the heating is continued. *Observe and note the temperature.*

EXPERIMENT 4.—Make a precisely similar experiment and observation with some solid paraffin.

The *melting point* of a substance is the temperature at which it passes from the solid to the liquid state. Experiments 3 and 4 prove—(1) *During the process of melting, the temperature of a substance remains constant*; (2) *Different substances have different melting points.*

EXPERIMENT 5.—Heat a small quantity of starch gradually in a crucible or test-tube. *Observe* that it blackens and changes, but does not melt.

EXPERIMENT 6.—Treat some ferrous sulphate (protosulphate of iron) in the same way. Note results.

Many substances undergo chemical change before they melt, or whilst melting.

EXPERIMENT 7.—Put some clean dry sea-sand in a crucible, and make it as hot as possible with a Bunsen flame. *Observe* that it does not melt, and undergoes no apparent change.

Many other substances neither melt nor undergo any apparent change even at a comparatively high temperature.

Liquids differ in mobility, relative density, colour, odour, and volatility or tendency to pass into a state of vapour. The boiling point of a liquid is the temperature at which it passes freely into vapour under a specified condition of atmospheric pressure.

EXPERIMENT 8.—Pour half a fluid ounce (10 c.c.) of water into a small dish, and the same quantity of alcohol in a similar dish; place them side by side at some distance from any flame or fire. Examine them every fifteen or twenty minutes.

Observe that both liquids pass into a state of vapour, but the alcohol evaporates more quickly than the water. Ether would evaporate still more quickly, but its vapour is very inflammable, and if a similar experiment is made with ether it must be done at a long distance from any flame or fire.

EXPERIMENT 9.—Put a fluid ounce (25 c.c.) of water in a large boiling tube. Fit a large cork to the mouth of the tube, and cut two or three notches in the side of the cork to allow vapour to escape. Bore a hole through the centre of the cork so that a thermometer fits somewhat tightly in it, and arrange the thermometer so that its bulb is about half an inch above the liquid in the tube but does not dip into it. (Fig. 10.) Heat the liquid over a low flame so that it boils steadily, and observe the temperature every two minutes during ten minutes. Then repeat the operation, using alcohol instead of water.

These experiments prove (1) *That at the same temperature different liquids have different degrees of volatility*; (2) *That different liquids boil at different temperatures.*

(To be continued.)

Winter Work.—XIX.

By T. C. HEPWORTH, F.C.S.

HINTS ON MAKING ENLARGEMENTS.

I HAVE always been a great advocate for the use of small cameras, and have the courage of my opinions in so far that I seldom in my own practice use one larger than quarter-plate. I have pointed out on a previous page the many advantages which the possessor of a small camera has over the photographer who works big plates, and have indicated that if the producer of small pictures wants an occasional large one, it is not difficult to attain his object by magnification of the original negative. It is only now and then that a negative will be considered worthy of this honour, and care should be taken that there is no mistake here, for a poor picture will look all the poorer when its defects are magnified. On the other hand, a negative which is full of detail, but which from some cause or other is too thin to yield a satisfactory proof by contact, will generally afford a fine enlargement. Especially is such a negative fitted for enlargement upon bromide paper.

Before attempting to enter upon the work of enlarging photographs, the operator should determine whether he wants a single positive from his negative, or whether he requires a large number, because upon the settlement of this question depends the shape which his work will assume. If one or two copies only are required, the bromide paper process is the one to adopt; but if, say, a dozen or more enlarged positives are wanted, it is far better to make in the first instance an enlarged negative, and then to print from that as many positives on paper as may be required. An undoubted advantage in this latter method of procedure is found in the circumstance that with such a negative we are not confined to one method of printing, but can adopt any we like, from fugitive albumen to permanent platinotype.

In carrying out any operation, it is obviously advisable to benefit by the experience of others by endeavouring to imitate the methods adopted by successful workers. But if we apply this method to the subject of enlarging, we are at once met with a difficulty, for the firms who devote themselves to this class of work by no means conduct their operations in the same way. One or two use daylight; another employs the lime-light, while at least one other uses the electric arc-light exclusively. For obvious reasons, daylight need not be considered here, and it is as well that such should be the case, for it is perhaps the most inconstant source of light that we can employ for the purpose. The lime-light is far more serviceable, and now that oxygen is obtainable commercially, it is within the reach of all. The electric light must for the present be discarded, but in the near future it will possibly be more easily accessible than any other luminant, and most certainly it is the best that can be had for the purpose of enlarging photographs.

If we require to produce an enlarged negative, we must first of all procure a good transparency on glass, which may be of the same size as the original negative, or smaller or larger according to the conveniences which we may have at hand for producing it. In another work* I have described a method of enlarging, which I originated, in which very small positives are employed, and by which I obtain the best results. But the method is only applicable by those who care to undertake the trouble of plate-making, for large chloride plates are employed which are not obtainable commercially. The general worker will be obliged by circumstances to use bromide plates for his enlarged nega-

* "Book of the Lantern." Hazell, Watson, and Viney, Ltd. 1, Creed Lane, Ludgate Hill, E.C.



FIG. 10.

tives, and he will do well to eschew those of a very rapid description.

The positive may be produced by any of the well-known processes, but it must not be the kind of positive which is best for the lantern. Exposure and development must be carried far enough to coax every bit of detail out of the original negative, and if a slight veiling of the lights is produced in the effort to do this, it does not in the least matter, as it would in the case of a lantern slide, for we do not want a pretty positive, but one which will yield us a good negative. We have an analogous instance in the case of a pretty black and white negative, in contradistinction to one which is rather yellow than black. The first will give us a hard positive, while the less ornamental specimen will afford us one rich in exquisite gradation of tone and full of detail. It is better to produce such a positive by means of the camera, and one or two forms of instrument suitable for making lantern slides have already been given. Failing one of these, two ordinary cameras can be called into play, the lens of one pointing into the open front of the other.

There is a way of making an enlarged negative direct from a smaller negative without the intervention of a positive image, and although this method has been known for some years it seems to be very seldom practised. The reason of this neglect is doubtless partly owing to the uncertainty which is sure to attend first attempts, and partly to the circumstance that certain plates, particularly those having abnormally thick films, are unsuitable, and give poor results. The process, which I will presently describe, should not be attempted unless the lime-light be available, for one element of success is represented by a very long exposure—an exposure, in fact, which would mean ruin to an enlargement produced in the more ordinary manner.

The kind of plate used is gelatine bromide thinly coated, as already indicated, and its development must be brought about by the ferrous-oxalate method. The exposure must be considerably longer than the normal, so that when the developer is flowed over the plate the image shall appear quickly. Never mind fog or darkness, but develop until the picture is seen as a positive on the glass side of the plate. After development give the plate a very thorough washing under the tap, and then bleach it in the following solution:—

Potass. bichromate	..	..	2½ drs.
Water	..	..	3½ ozs.
Nitric acid (chemically pure)	..	..	1¼ "

Dilute before use with 15 parts of water.

Wash the plate once more after this bleaching operation, and resensitize it by flowing over it repeatedly in a dish or whilst held in the hand the following alkaline solution:—

Water	..	..	7 ozs.
Ammonia bromide	..	..	1 drm.
Liq. ammonia fort.	..	..	1 drm. 8 minims.

The plate is now exposed to brilliant white light for from two to six seconds, and is redeveloped with the same ferrous-oxalate solution which was used in an earlier stage of the process. After another washing, the negative is fixed in the usual manner, and cleared if necessary with acid and alum. It may be noted here that a reversed negative will result if the two films during the first exposure in the enlarging apparatus are so placed that they face one another. Reversed negatives so produced would be invaluable if the subsequent positives are to be made by the carbon method. But for other methods of printing a reversed negative is not required, and therefore the original must during exposure be placed with its back towards the larger plate, or the latter must turn its back to the original.

This process in careful hands will yield an enlarged negative, which cannot easily be excelled, but it requires practice and very careful attention to details. The longer the time occupied in applying the ammonia solution to the large plate the more sensitive it will become. But it is quite impossible to give more definite directions than I already have as to time of secondary exposure. This must be learnt by the experience which will be gained after the sacrifice of a few plates.

(To be continued.)



Photographic References.

BY MAJOR J. FORTUNÉ NOTT.

APPARATUS.

(Continued from page 73.)

Hints Concerning "Dark-Slides."—In many patterns of cameras the "double-backs" are made to slide into their place, but this arrangement is not to be recommended. The groovings frequently become, from wear and tear, or from a shrinking of the wood, the points where light can creep in; or, in the other event, a swelling of the wood from atmospheric moisture will so tighten up the sliding parts that considerable risk will exist of moving the camera out of position when adjusting the back. The purchaser of a camera is advised to order the backs to be so fitted that they can be slipped into a recess made in the grooving at a point near the correct one for them to occupy, and then by a slight movement they can be pushed "home." This simple device is the one now generally adopted in all first-class cameras, and is probably the best scheme yet discovered for connecting the double-back therewith.

In the American cameras, to which reference has already been made, the focussing-screen is loose and has to be lifted out of its place for the substitution of the back. This is done by placing it in position, and trusting to a spring or catch keeping it so closely in contact with the camera frame that all light is excluded. Nothing could be more simple, but it cannot be relied upon, for very evident reasons. The focussing-screen being a loose part, it becomes a nuisance, and this feature alone is enough to justify would-be purchasers refusing a form of camera in which this defect exists, whether it is of English or American design.

It is of the utmost importance, if good work is aimed at, for all the "dark-slides" belonging to a camera to be so accurately adjusted that when any one of them is placed in position for an exposure, the sensitive plate is brought into exactly the same place in every part as the focussing screen formerly occupied. To find out if there exists any want of coincidence between the sensitive surface of the plate and the roughened side of the ground-glass, the camera should be set up and some printed matter sharply focussed; then without disturbing the position, the dark-slide, containing in one department a piece of ground-glass, should be inserted. By drawing out the two exposing shutters the image on the glass can be examined, and if there is any deviation in the sharp appearance of the image, the fact that it is not in the same register becomes evident. This test should be made with both sides of each "double back."

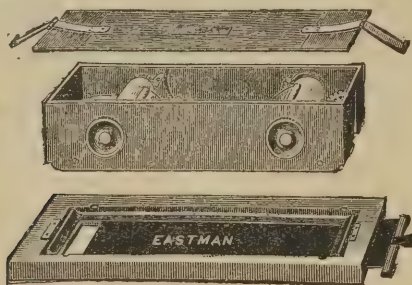
To prevent some of the dust which may be contained in the dark-slide settling on the plate, Captain Abney recommends painting the interior over with glycerine, which, by remaining moist, attaches the particles floating about. In countries where dust and sand exist in excess, the

adoption of this valuable hint will be found to be a very beneficial measure.

As so much in photography depends on the double-backs fulfilling their office in a perfect manner, care should be exercised in storing or handling them; keeping them wrapped up in cases made of baize or other suitable material, is a good way to preserve them. If this method is adopted, each bag should be numbered in some way with the same numerals as those borne by the double-back for which it is intended.

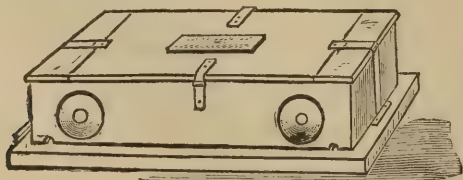
A *Roll Holder* is a most useful piece of photographic apparatus, and an extremely ingenious one, which was first brought to public notice by Mr. A. Melhuish some thirty-five years ago, but the idea has since undergone considerable development by the Eastman Company. By the aid of a roll-holder a continuous band of paper or any flexible film coated with sensitive gelatine emulsion which has been wound on to a roller can be employed for the creation of negatives. For this purpose the film is unwound in the slide from the holder in lengths equal to the size of plate for which the holder is designed, and after exposure is rewound on to another roller called a "clamping reel." In this way fifty or more successive exposures can be made without resort being had to a dark-room to effect that constant changing the employment of glass plates or cut sheets of any description necessitates when they are carried in the ordinary dark slides. The roller slide has also an advantage over any "changing back" in its compactness; also in the fact that it enables a larger number of exposures to be made, and is less liable to get out of order. Its lightness, and the lightness of the rolled film used with it, besides making it a very desirable adjunct of the traveller's kit, confers advantages which are much to be appreciated in all hand-camera work.

The form of a roll-holder is illustrated below. The special design chosen for this purpose is the well-known



one called, after its inventors, "The Eastman-Walker Improved Roll Holder." It is attached to the camera when required for use in exactly the same way as an ordinary dark-slide.

Within the compact case, which is said to be made of well-seasoned mahogany, jointed by specially made machinery,



besides the two rollers already referred to, several necessary contrivances are to be found existing, and the mechanisms and the way their work is accomplished should be thoroughly mastered by all possessors of a roller slide. This knowledge is easily acquired, for the whole thing is of the most simple character, and a "dummy" spool of plain paper is generally supplied for experimental purposes. There exists a

device for creating an *automatic tension*, whereby the film is kept stretched flat and smooth; also an *audible and visible indicator* which enables the operator to be assured by both sight and sound that each exposure has been correctly wound off, and a fresh length placed in position. The film itself is punctured by an *automatic perforator* in such a manner that no mistake need be made when the roll is being cut up for development. On the margin of one side, each revolution of the spool is marked, and on the other the subdivision of each exposure.

Hints respecting Roll-Holders.—Practice inserting the "dummy roll" in daylight until sufficient skill has been acquired to enable the same performance to be accomplished in the dim recesses of the dark-room. When loading the holder don't forget to throw back the pawl that produces the required tension. When inserting a fresh roll, by turning the revolving bar that communicates with the indicator, and over which the film has to travel to a point just before that at which an exposure is registered, all waste of material is avoided, for a mere tightening of the film will bring the indicator into the required position for starting its registrations. Unless this precaution is adopted, a fourth of an exposure can be wasted every time the film is cut, or a fresh attachment has to be made, and as there is very little allowance for waste at the end of the roll, an inch of film saved may give the operator an exposure which otherwise would not become serviceable. Make it a rule to always mark with a pencil the dividing lines of the first exposure when preparing the holder for service. In drawing out the slide when an exposure has to be made, do so by keeping it in a parallel position; and again when returning it do the same. If held in a slanting position, a corner goes in first, and by holding open the spring, the duty of which is to keep out the light, fog may result. With care this hidden spring does all it is required to do, but a little negligence may cause it to become the source of trouble. Until the manufacturers attach a small memorandum slate to the back of the holder on which the detail of each exposure can be noted, it will be found of some convenience to attach a card oneself for this purpose. By its aid the employment of the usual note-book can be dispensed with, and it is always ready to hand, which the other is not. The adjustment of a roll-holder to an ordinary camera should only be done by a skilled workman, for it is a somewhat delicate operation, as it must be brought into exact register as the focussing screen. No tampering with the framework of the camera should be permitted, for then the "double backs" may be thrown out of coincidence.

(To be continued.)

WALTER TYLER'S CATALOGUE OF LANTERNS AND SLIDES is one of the most complete we have seen. There are illustrations and prices of lanterns of all kinds, and no less than 160 pages devoted to the titles of slides.

MESSES. PERKEN, SON, AND RAYMENT.—The following notice has duly appeared in the *London Gazette*:—"Notice is hereby given that the partnership heretofore subsisting between us the undersigned Louis Edmond Perken, Frederic Louis Perken, and Arthur Rayment, carrying on business as manufacturers and importers of optical and scientific instruments at No. 99, Hatton Garden, and elsewhere in the county of London, under the style or firm of Perken, Son, and Rayment, has been dissolved by mutual consent, as from the 31st day of December, 1889. All debts due to and owing by the said late firm will be received and paid by the said Frederic Louis Perken and Arthur Rayment, who, with Edgar Theodore Perken, the younger son of the said Louis Edmond Perken, will continue to carry on the same business at No. 99, Hatton Garden aforesaid, in partnership, under the same style or firm. Dated this 24th day of January, 1890.—L. E. PERKEN, FREDERIC LOUIS PERKEN, ARTHUR RAYMENT."

Competitive Papers.—No. XII.

ENLARGEMENTS.

Second Prize — CLEMENT J. LEAPER, F.C.S.

An enlargement is, as every photographer knows, a positive made from a negative smaller than itself. Presuming that the enlargement is to be on paper, three methods can be employed to prepare it: (1) We may make an enlarged transparent glass positive from the small negative, and a negative by contact from this, from which negative prints may be obtained by any process. (2) We may make a glass transparent positive by contact from the original small negative, and use this to obtain an enlarged negative, or (3) We can make an enlarged paper positive direct from the small negative.

We shall in this paper deal with only the second of these methods, the first one being defective in principle, expensive, and difficult to carry out, and the third being outside the scope of the present paper.

The optical principles upon which the making of enlargements depends, claim our consideration first. These principles are not difficult to understand once the action of a lens in forming an inverted image is understood.

Everyone who has used a camera knows that in focussing an object on the ground glass, the nearer we are to that object the more we have to increase the distance between the lens and the ground glass, and the larger the image on the ground glass becomes. This increase in the size of the image does not necessarily stop when we have racked out the camera to its fullest extent. Had we provided the necessary extension we could rack out the ground glass until we got an image as large as we please.

This is the fundamental principle involved, special arrangements being made merely to facilitate work. In taking a negative, the object photographed may be considered as an extremely large (by comparison) image formed at one of the conjugate foci of the lens, whilst a much smaller image is formed on the ground glass situated at the other conjugate focus.

Since these two foci are interchangeable, it follows that the lens which has taken the negative will also serve to enlarge the same negative (theoretically at least) to a size equal to the original.

We commonly employ stops in taking negatives, and their use in making enlargements calls for some remarks. When making negatives we use stops for two purposes, viz., to compel objects situated at different distances in front of the lens to form images at the same distance behind it (depth of focus) and we also use them to gain marginal definition, even if the object photographed be practically in one plane. Since, in enlarging, the object (negative or positive) is already in one plane, the sole use of the stops is to get marginal definition.

For many reasons we endeavour to reduce the exposure to a minimum when enlarging, and therefore always seek to employ as large a stop as possible. This workable aperture will really depend upon the circle which the lens used with any particular stop will then cover with perfect sharpness. If we are enlarging a vignetted portrait head, for instance, we can use the lens full aperture, as any good lens will cover, full aperture, a circle occupying only one-quarter of the plate the lens is made to work with.

If, however, the negative must be enlarged to the margins, then a small stop becomes an absolute necessity.

In enlarging, the *form* of the image is precisely the same, no matter what angle the lens includes—of course the wider the angle (shorter focus) of the lens, the nearer it will be to the ground glass and to the sensitive surface, and the narrower the angle (longer focus) of the lens the further will it be from both of these.

It would seem from this that short or long focus lenses can be used indiscriminately, but in reality such is not the case. Long-focus lenses possess several advantages for this class of work. In the first place a long-focus lens possesses *with the same aperture* better covering power than a short-focus one, and in the second place the image yielded by it is much more evenly illuminated. The first advantage conduces to rapidity in working, and the latter is too obvious to need comment.

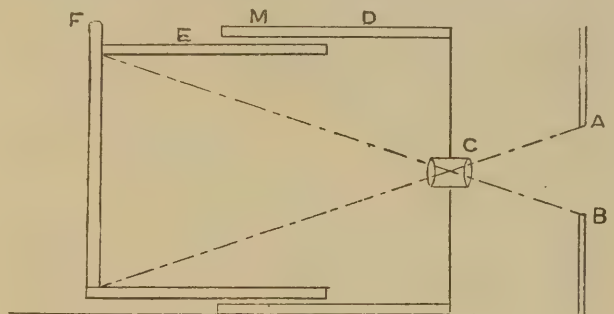
In taking a negative we so arrange matters that the view it represents is properly lighted, and the negative is a counterpart of the lights and shadows of the original. When enlarging from

such a negative we must insure that it is lighted evenly (so that the enlargement shall be a counterpart of the original) and as strongly as possible (so as to be able to make the enlargement in as short a time as possible). There are two methods of lighting a negative to enlarge from it, viz., by daylight and by artificial light. We shall consider here only the first of these. And so far as apparatus is concerned, we may make our enlargement in an enlarging camera, or in the dark-room itself used as a large camera obscura.

We require in an enlarging camera a body capable of extending to a sufficient length, and arranged on a firm baseboard (to avoid vibration.) One end of the camera is provided with ground glass and a single back with carriers to hold different sized plates, and the other end carries the lens pointing towards the negative to be enlarged from itself, held in a carrier like a camera front, viz., capable of horizontal and vertical motion.

This camera can be used horizontally, in which case a reflector is placed behind the negative, or tilted at an angle so that the negative points towards the sky.

The subjoined sketch represents the entire arrangement:



A B, negative holder, capable of to and fro motion; C, lens fixed in front of enlarging camera; F, ground glass or carrier to hold sensitive plate.

The dimensions of the apparatus will depend upon the focus of the lens employed, the size of the negative to be enlarged from, and the size of the enlargement itself.

Supposing that we employ a lens of 8-inch focus and wish to enlarge from half-plate to a minimum of 10 by 8, and a maximum of 15 by 12, the following table gives us the required information:

Size of Enlargement.	Distance in inches from	
	Lens to Ground-Glass.	Lens to Negative.
10 by 8.	20 $\frac{4}{13}$	13 $\frac{1}{2}$
Half-plate to ... 15 by 12.	26 $\frac{6}{13}$	11 $\frac{7}{13}$

Allowing for the necessary adjustments, we see that under the given conditions the upright A B must be capable of sliding to and fro from 11 to 13 $\frac{1}{2}$ inches from the lens, whilst the ground glass must admit of being racked in and out from 20 to 27 inches.

Two square wooden bodies each 15 inches long, one (M D) rigidly fixed, the other (E F) sliding in and out, will therefore answer the purpose. This will leave three inches of overlap at M when the camera is racked out to its fullest extent. The boxes may be very roughly made, but should, of course, exclude white light, and be blackened inside.

The best way to use the enlarging camera would be to place it on a table, and so tilt it that the light reflected from the sky would pass through the negative at A B. The amount of tilt necessary need not be very great if access can be had to the upper windows of the house. Failing this, a reflector should be placed behind the negative at an angle of 45°, and so arranged as to reflect white light through it. A piece of plate-glass *silvered on the front*, is the best to employ for this purpose, but a piece of opal glass or even of white cardboard, answers very well.

When about to make an enlargement we begin by making a small positive from the original negative. This is made by placing an ordinary slow dry plate behind the negative in a printing frame, exposing the two to very weak daylight, and developing, etc., in the usual way. Care must be taken to give such an exposure as will yield a negative full of detail, and not to push development too far. The exposure is best effected with the

printing frame at the bottom of a box, with blackened sides, at least two feet high. The object of this arrangement is to secure maximum sharpness, much of which would be otherwise lost.

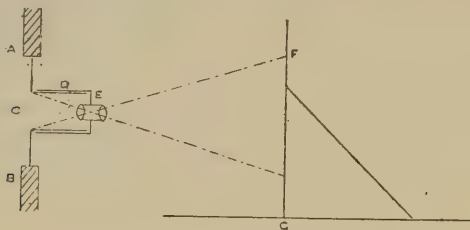
The finished positive is next placed in position in the enlarging camera, and the focus secured in the usual way, the final focussing being done with a magnifier placed at the back of the ground glass. The lens is then capped and the slide removed to the dark-room and provided with a plate. The slide is then put in position and a light framework of cardboard blackened inside placed between the negative and the lens so as to exclude stray light, and under this the hand removes the cap of the lens and exposes the plate.

Exposure over the plate is developed as usual, and yields, of course, an enlarged negative, from which positives can be printed by any method.

If the dark room is sufficiently large and conveniently situated, it may be made to serve the purpose of an enlarging camera itself.

We will suppose that the room faces north, and is so lofty that the window has an unobstructed view of the clear sky.

In such a case it is merely necessary to provide a frame fitting a portion of the dark-room window, and capable of holding a glass positive. From the portion of the window occupied by this frame, the ruby fabric or red glass will have been removed, so that the positive is opposite the clear sky, and this frame must be so arranged that when the whole is in position no white light finds admission except that which passes through the positive. Fitting tightly over this frame is a camera body, carrying the lens in front, and capable of being moved in and out in the usual way. In the example taken previously the lens should be 11 inches from the positive, and the camera should rack out to 13½ inches. In front of the lens an easel carrying a drawing board travels backward and forward on a tramway. The figure will explain this arrangement.



A B is the dark-room window from which all white light is excluded, except what passes through the positive at C; D is the camera body, with the lens at E; and F the easel moved backwards and forwards on a tramway G.

The drawing board must be parallel to the positive at C.

A hole 2 ins. square is made in the centre of the drawing board, and piece of plain glass secured with drawing pins to the side of it, facing the lens and so as to cover the aperture. The use of this will be apparent later on.

To employ the apparatus, the positive is placed in position, and a rough focus secured on a piece of white cardboard the same size as the enlargement, fixed to the drawing board by five drawing pins, two at the bottom and one at each of the sides. The rough focus secured, the cardboard is removed, leaving the two pins at the bottom and one at either of the sides in their places, and the final focussing done with a magnifier placed at the back of the piece of plain glass. This latter is now removed, the lens capped, and an ordinary dry plate placed in position and exposed, the drawing pins left in position, ensuring that it occupies the same position as the cardboard. This plate is then developed and fixed in the usual way, and yields an enlarged negative. A black blind should be arranged so as to exclude almost all red light during focussing and exposure.

If the window does not face north, or if enlargements have to be made whilst the sun shines on the window, a piece of ground glass must be used behind the negative so as to moderate the light.

If the dark-room is so situated that the window is more or less obstructed by buildings or trees, two expedients can be adopted, viz., a reflector may be placed at an angle of 45° outside the window or the negative holder, camera body and easel can be arranged on a board, and so tilted that the negative points to the clear sky.

If the latter plan is adopted, the frame must be fixed at the top

of the window to allow the easel to be moved far enough away. The amount of tilt to be given to the board will depend, of course, on local circumstances, but need never be very great. The board carrying the easel should be made removable so as to permit the room to be employed for other purposes.

If a reflector is used, it must be large enough to illuminate the negative viewed from the nearest position of the lens. If the eaves of the house do not project very much, the lower edge of the reflector may be near the negative, but if the eaves project, it will have to be placed further off and must in that case be made larger. The proper size for the reflector is a matter easily determined by experiment, and is ascertained in the case in point by placing the eye 11 inches from the carrier with its half-plate aperture, and ascertaining by trial what size a piece of cardboard placed outside at an angle of 45° and evenly illuminated (i.e., out of the shadow of the eaves) must be to cut off all direct light.

Evidently the nearer the lens is to the aperture in the dark-room window, or in other words, the shorter its focus, the larger must the reflector be made. This fact furnishes another argument in favour of the employment of long-focus lenses for making enlargements.

Our Contemporaries at Home and Abroad.

Anthony's Photographic Bulletin (New York), referring to "Toning and Toning Baths," says, "A toning bath that works rapidly will give blue tones; one that works slowly, red or brown tones. This comes from the fact observed long ago that fine metallic gold precipitated rapidly is a decided blue colour, while gold that is precipitated slowly is red. It therefore follows that to give a purple tint to albumen prints, the original washed prints should be a little reddish, and a gold toning bath should be used that works rapidly. If, on the other hand, reddish or brown tones are desired (as for landscapes), then a slow-working gold bath should be used." It also says, "The new eoside of silver plates has been used to make negatives of a rare variety of orchid, showing different shades of yellow, blue, and green. Using the ordinary pyrogallol developer, the results are pronounced most excellent." Articles: "Photography from a Woman's Standpoint," "The Invention of Autotypy," "The Japanese through the Camera," "At Home Portraits and Groups," "Testing Lenses," "Photo-Micrography," etc.

British Journal of Photography, in an article on "Matt Opal Glass," says, "We may point out one very simple plan of treatment which is sometimes a real improvement to a picture; it is well enough known to professionals. It consists simply in backing the opal with a piece of orange or other coloured paper, the extent to which a piece of 'white' opal can be altered in tone according to the colour of this backing material being remarkable to those who have never before attempted the experiment." In another note it says, "Having developed a plate with a very much discoloured solution, containing eikonogen and sodium carbonate with a trace of potassium bromide, it was found on fixing to be deeply marked with an opalescent brown stain, equal to the worst pyro stain. Placed to soak in a dish, it was found in an hour or two's time that the shadows of the negative were beautifully clear and colourless, while the water had assumed a muddy-yellow tint." Articles: "The New Benzoline Lime-light," "The Probable Permanence of Plain Paper Prints," "The Explosion of a Gas Cylinder," "On the Control of Density of Negatives," "Practical Interpretation of the Law of Conjugate Foci," etc.

Photographic News, speaking of "Lights from Explosions or Detonators," suggests that the best plan is to use several lights simultaneously, and the best method of "igniting them by means of a Wimshurst electrical machine, arranged to give sparks at will between disconnected parts of an otherwise complete metallic circuit. Some explosive powders such sparks will scatter and not ignite, but placing a piece of wet string in the circuit usually overcomes this difficulty." Among its notes the *Photographic News* says, "No one would wish to lessen the glory of Daguerre by a jot, but is there not rather a tendency to overdo the homage which is being paid to his memory all over the world? In the universal pæan of praise which is being sung, one is apt to forget the name of Talbot. It is no question of

rivalry between Talbot and Daguerre which we desire to raise, but rather a reminder that, while Daguerre's process is practically extinct, the germ of the Talbotype yet remains incorporated in our everyday work." Articles: "Photography in Germany," "Ernst Schering," "Self-Luminous Transparencies," "Some Experiments with Eikonogen," "A Photographic Fiend," etc.

Photographische Notizen (Vienna) contains useful notes on "Indoor Photography with the Flashlight."

Photographic Times (New York), in an article on "Side-light Portraiture," by Miss Catherine W. Barnes, says, "There is a class of critics who can see nothing good in a photograph unless it is out of focus, but it does not seem impossible in my mind to steer between Scylla and Charybdis and have a portrait sharp and soft in the proper places, and not a general fuzziness. Poor photographic work surely ought not to be called good art work, but a good photograph is a work of art as well as science." Articles: "American Films for Process and Show Work," "Making Cyanotype Transparencies and Lantern Slides for Light-struck Gelatine Emulsion Plates," "Blisters—How they are caused and cured," "Repairing Broken Negatives," etc. The accompanying illustration is from one of Miss Barnes' negatives taken with a side-light.

Photography, speaking of "Density of Negatives," says, "Every photographer knows that there are some negatives very obviously too thin, but which are not beneficially affected by prolonging the application of the developer. In short, the density desired cannot always be got by development, because sometimes it will not come, and oftener because there is no reliable means of telling when it has been obtained until after fixing." In an article on "Printing Papers," it says, "Nature is not glazed. It may be argued in opposition, neither is nature limited to certain sizes, nor all in one plane, or of one colour, and that if we admit what is unnatural in one respect, why not in others? The answer is distinct enough. Our art is not a model. It is the best expression possible to us upon a flat surface of what the mind apprehends in nature, and we must not falsify where falsification can be avoided." Articles: "Photographers' Benevolent Association," "Collodio-Bromide Emulsion for Lantern Slides," "Astronomical Photography," "Tinting Lantern Slides," etc.

"Thursday Evenings" at the Camera Club.

BY ONE OF OUR STAFF.

ON Thursday, February 6th, a paper contributed by Sir David Salomons was read. Mr. E. R. Shipton was in the chair. The paper contained formulæ for ascertaining exact distance of lantern from screen when a certain amplification with a given lens is desired, and for finding focal length of lens to be employed for a fixed distance and enlargement. Some remarks upon the paper were made by Mr. Elder and Mr. Davison.

An exhibition of lantern slides followed—views in the Netherlands by Messrs. H. M. Elder, E. G. Spiers, and W. A. Greene being first shown. These were succeeded by a set of New Zealand scenes by Mr. Wray Palliser, and the first club loan collection of slides, sixty in number, contributed by various members. Other sets were shown by Messrs. Andreae, Fraser, Harding, FitzPayne, and Shipton, nearly 300 slides in all being brought up by members for exhibition. At the commencement of the meeting the Hon. Secretary handed round an instrument (sent up by Mr. Dresser) called the "lanternoscope"—an apparatus devised for the effective viewing of lantern slides. In form and use the lanternoscope is like the stereoscope, but without the means of securing stereoscopic effect. The transparency is viewed through a magnifying eyepiece, the picture having behind it a piece of ground glass for diffusing the light from the lamp. There was also exhibited (sent by Messrs. Hinton and Co.) a large, unusually effective photograph of the Eiffel Tower, taken by M. A. Pepper, of Paris.

The paper on Thursday, February 20th, will be one communicated by Mr. W. K. Burton, "On one or two of the Tenets of the Naturalists." Meeting at 8 p.m.

Societies' Meetings.

BATLEY AND DISTRICT PHOT. SOC.:—The ordinary meeting was held at the Exchange Coffee Tavern, on the 16th inst., when several stereoscopic and lantern slides were placed upon the table by Mr. Naylor for inspection. The following gentlemen have been elected officers for the ensuing year: President, Mr. Percy Sheard; Vice-President, Mr. Harry Spedding; Hon. Sec. Mr. Charles Naylor (Clark Green Street, Batley).

BRECHIN PHOT. ASSOC.:—The usual monthly meeting of the above was held on the 5th inst., Dr. Anderson, Vice-President, in the chair. The chief business of the evening was a paper by Wm. Stewart, junr., on the various methods of working bromide and Alpha papers. Samples of work on various brands of paper developed with pyro, ferrous oxalate, and hydroquinone were handed round, and Mr. Stewart then exposed and developed a few prints on samples of both papers. Messrs. Fry and Sons kindly sent on samples of work on their bromide paper, and a specimen print on their new "ivory celluloid film," which were all much admired. It was arranged that the next meeting take the form of a public lantern entertainment, the Secretary intimating that he had arranged for parcels of slides from the Editors of the AMATEUR PHOTOGRAPHER and others. Votes of thanks to Mr. Stewart and the Chairman brought the meeting to a close.

DUNDEE AND EAST OF SCOTLAND PHOT. ASSOC.:—On the 6th instant the first popular lecture this season under the auspices of the above Association was given to a crowded audience in the Kinnaird Hall, by Mr. J. W. McCall. The scenery illustrated was that of Orkney, Shetland, and Greenland, the pictures having been prepared by Messrs. Valentine and Sons. A large screen was used, some thirty feet square, and special lantern arrangements had to be made. Starting from Kirkwall, with its celebrated cathedral, the various islands were visited in turn, and the Orkney group was next shown, the audience getting a capital idea of the bold headlands and magnificent rock scenery, besides views of Lerwick, Stromness, and Scalloway, the old castles and ruins found on the various islands, and scenes illustrative of the habits and customs of the natives. The series closed with views of the Tay and Forth Bridges, several other large structures being shown by way of contrast.

GLASGOW PHOT. ASSOC.:—The fourth general meeting of the session was held on the 6th inst., Mr. Wm. Lang, jun., F.C.S., President, in the chair. The following new members were elected: Paul Rottenburg, James Richardson, C. J. Anderson, J. T. Darling; ex-Provost Clark, of Paisley, was elected an honorary member. In the question-box the following questions were found:—(1) Can anyone give any information about the explosion at Polmadie? Is there to be any public or scientific report to be made regarding the same? (2) What method of varnishing celluloid films is the best? (3) Can any one mention a formula for toning Alpha lantern plates? Regarding the first question, after some discussion, it was thought that the authorities would be sure to investigate the matter. The second question was to a large extent unanswerable. It was understood that the Eastman Company were working to produce a suitable varnish. Professor E. J. Mills, D.Sc., F.R.S., then gave a communication "Some Practical Notes," in which reference was made to eikonogen, its discovery, chemical constitution, and its role as a developer. Several interesting novelties were shown by Dr. Mills, notably a lens mounted in aluminium. Mr. H. M. Smith, representing the Eastman Company, exhibited the new Kodak, celluloid film, negative, new glass tray for developing same, etc. These two gentlemen received the thanks of the members. Specimens of a new glass etching process (Mallock's patent) were next passed round, and the proceedings closed with a series of photographs illustrative of the various Photographic Conventions, forwarded by A. Pringle, Esq., honorary member, some micrographs by the same gentleman being shown by means of Society's lantern.

HOLBORN CAMERA CLUB.—Friday, February 7th, was devoted to the instruction of beginners. The opening remarks were made by Mr. Brocas, who was followed by Messrs. Bayston, Smith, and Jones. It is to be hoped that the practical information then given will result in some good work during the coming season. On February 14th Mr. Traill Taylor will have something to say about lenses. Saturday, March 1st, the club will hold its annual exhibition of members' work, at

Anderton's Hotel, Fleet Street. In conjunction with the above will be held a Cinderella dance, tickets for which can be obtained from any member or of the Hon. Sec. (100, High Holborn); members of other clubs will be welcomed.

LIVERPOOL UNIVERSITY COLLEGE PHOT: SOC:—The fourth ordinary meeting of the present session was held on the 3rd inst. Dr. C. A. Kohn, the President, was in the chair, and after several preliminary notices, he called on Dr. J. L. Howard to read his paper on "Orthochromatic Photography." The paper, which was illustrated by lantern-slides and experiments, traced the history of orthochromatic photography up to the present time, and gave the results of the chief workers: Voget, Eder, Bothamley, etc. Dr. Howard mentioned the chief dyes used on the plates, and showed slides comparing the effects of each; he also explained the use and action of the yellow screen in orthochromatic work. Mr. Higgs then gave his results with orthochromatic plates, mentioned the dyes he used, and showed several fine photographs, taken by himself, of the lower end of the spectrum. Two fine enlargements of Prof. Rowland's spectrum photographs, and several fine photographs of nebulae and stars, by Mr. Isaac Roberts, F.R.A.S., were exhibited. Dr. J. C. Brown then gave some excellent advice to the members of the society, encouraging them to take photographs of natural objects—*e.g.*, faults in rocks, boulder stones, lightning flashes, etc.—which he said would be likely to prove of great value in furthering geology and physics. The next meeting will be on Wednesday, Feb. 26th, when Mr. Paul Lange will read a paper on "Detective Cameras."

LOUGHBOROUGH LIT: AND PHILOS: SOC:—The photographic section of the Literary and Philosophic Society gave a free evening on the 8th inst. to a number of people in the Victoria Room, kindly lent for the occasion by the Mayor. The room was well filled, a portion being reserved for the Society, and the remainder thrown open to the public. The Mayor presided, and opened the proceedings with a few appropriate remarks. A variety of local views taken by amateur photographers were thrown on the screen by the aid of a powerful lantern manipulated by Mr. J. B. Colgrove. The views had been prepared by Messrs. W. T. Tucker, J. B. Pike, F. Riley, W. C. Burder, W. Clarke, A. D. Bartlett, J. B. Colgrove. Mr. H. Pickering, of Leicester, acted as guide, and commented on the illustrations. During the evening a photo of the Mayor was taken, and subsequently conveyed to a lantern-slide and thrown on to the screen.

LUTON AND DISTRICT PHOT: SOC:—At the meeting on the 8th inst., Mr. F. E. Percival in the chair, a code of rules was adopted, and the following gentlemen elected officers: President, Cyril Flower, Esq., M.P.; Vice-Presidents, his worship the Mayor of Luton, Mr. A. Carruthers, Mr. F. E. Percival, and Mr. W. Wardill; Treasurer, Mr. W. Boutwood; Council, Messrs. H. Edwards, L. Giddings, T. Dawson, E. Howard, W. Cawdell, and A. V. Spratley; Secretaries, Messrs. Geo. Bunyan and A. Howard. The next meeting is fixed for the 24th inst., and will be a social evening, with music, etc., and there will also be an exhibition of apparatus. A paper will be read by Mr. Howard, and the members will contribute prints for mutual inspection.

NORTH LONDON PHOT: SOC:—The last meeting was held on the 4th inst., Mr. Douglas in the chair. The Secretary stated that the demonstration on "Bromide and Alpha Printing," was fixed for April 18th, and not for February 18th. Mr. Louis Medland then proceeded to give his lecture entitled "A Day at the Zoo." The lecture was illustrated by upwards of 200 lantern slides, prepared by the lecturer himself from negatives taken by him during the last two or three years. The lecture was most interesting. A hearty vote of thanks was accorded to Mr. Medland. Mr. Hudson then showed and explained the action of a new detective camera just brought out by Mr. Abraham, of Aldersgate Street. Mr. Hudson also showed a metal ring which he had had made for encircling a lens mount and preventing the stops from slipping out, and also any light from entering the slit. Mr. Mackie stated that he thought Mr. Hudson would find that several patents had been taken out for a similar contrivance. The next meeting (a technical evening) will be upon Tuesday, February 18th. Mr. A. Mackie will take the chair.

OXFORD PHOT: SOC:—The members of the above society met on Thursday, 6th inst., to see an exhibition of slides, entitled "Boston Illustrated," by the oxy-hydrogen lantern. The slides were made by the Boston Camera Club, U.S.A. Mr. Ryman Hall kindly undertook the reading, and Mr. Salter the management of lantern and slides. The next meeting will be held on Feb.

20th, when there will be a show of members' cameras, together with a flash-light exhibition.

REDCAR AND COATHAM AM: PHOT: ASSOC:—At the meeting held on February 4th, the AMATEUR PHOTOGRAPHER slides were exhibited on the screen by Dr. Stainthorpe. A considerable number of members' slides were also exhibited. The "Inland Scenery" and "Seaside" series of the AMATEUR PHOTOGRAPHER were very much admired, some of the slides exhibiting a very high order of merit. A vote of thanks to the Editors of the AMATEUR PHOTOGRAPHER and Dr. Stainthorpe closed a highly successful meeting.

SHEFFIELD PHOT: SOC:—The monthly meeting of the above Society was held on Tuesday evening, the 4th instant, Mr. B. J. Taylor, the President, in the chair. There was a large number of members and their friends present, when a series of 180 slides was passed through the lantern, which was manipulated by Mr. G. Bromley. The slides had obtained prizes given by *Photography*, amongst which was a Silver Medal Series gained by the energetic Secretary (Mr. E. Beck) of above Society. There was also laid on the table "Enlargements," contributed to the AMATEUR PHOTOGRAPHER Monthly Competitions. After the usual vote of thanks, the meeting separated, having thoroughly enjoyed a very successful evening.

SOUTHERN AM: PHOT: SOC:—An ordinary meeting of this society was held on Friday, 7th. Lieut. F. W. Cobb, R.N., occupied the chair, and twelve members were present. Dr. Wardrop and the Hon. Secretary were appointed a sub-committee to make arrangements for the annual exhibition of lantern slides to members and friends, and to engage a suitable hall for the purpose. Dr. Wardrop then read his paper "Lantern Slide-making for Beginners," illustrating the various points from time to time by views thrown on the screen.

WEST KENT AM: PHOT: SOC:—The general meeting was held on the 5th inst., Mr. Grant in the chair. After the usual business, the Chairman called upon Mr. Jones for his paper "My Experience of Photography." The lecturer, starting with the assumption that the majority of amateur photographers were recruited from the ranks of professional and business men, said it was important, owing to the short time generally at their disposal, that as few difficulties as possible should be allowed to present themselves. Hence he strongly advised that all apparatus connected with the work should be of the best possible description, both as regards the camera, etc., and also the dark-room. He then dwelt upon the difficulties experienced by many beginners, and explained them. He exhibited a stand of his own manufacture, made in the form of an alpenstock. It was greatly admired for its strength and rigidity. A hearty vote of thanks was accorded to Mr. Jones. It was arranged that a short lantern show be held at every meeting for the remainder of the season. Next meeting, Wednesday, February 19th, will be the last day for sending in the lantern slides for the Society's competition.

YORK PHOT: SOC:—The President's annual address to the members was listened to with much interest, among the points touched on being the results of last season's work, and the programme for the present year, with several suggestions, which if acted upon would materially advance the society's usefulness. A lantern exhibition followed, and the slides to be sent to the Paisley Society were selected.

PHOTOGRAPHIC CONVERSAZIONE IN BRADFORD.—The first conversazione of the Bradford Photographic Society has been held. There was a large attendance of members and friends. In opening the proceedings, the President (Mr. Alex. Keighley) said the society was established in 1884 as a society of amateur photographers, and it could show a record of good and useful work, as was evidenced by its annual exhibition in the Bradford Art Gallery. During the past few years growing interest had been taken in photography, and amateur photographers had largely increased in number. The roll of membership of that society had not, however, grown in the same proportion. It was with the object of calling attention to the existence of the society that the conversazione had been projected. The aim of the society in holding the conversazione was not only to provide enjoyment for an hour or two, but to induce amateur photographers who were not already members to join its ranks. The principal feature of the conversazione was an exhibition of photographs lent for the occasion by members and friends from a distance. There was an extensive display of views lent by the Autotype Company and the Woodburytype Company, and

among other professionals by Messrs. W. W. Winter, of Derby, and J. P. Gibson, of Hexham. The amateur members of the society exhibiting were numerous. The exhibits of Mr. Forsyth were very numerous, and comprised much work of an elaborate and skilful kind. Mr. Keighley's pictures were greatly admired, as were also Mr. D. G. Law's abbey views and lake scenery. Mr. W. Halstead showed many pretty landscape photographs of small dimensions. Mr. Sonnenthal's subjects were chiefly Continental, while Mr. Scott and Mr. Leach contributed fine views of Bolton Woods and other river and woodland scenery. Transparencies and stereoscopes were shown by Mr. Forsyth. Another interesting feature was the exhibition of lantern slides by the aid of Messrs. Appleton's triple lantern. Messrs. Appleton and Mr. Grayson also showed specimens of photographic apparatus, among which were camera sets ranging from 15 in. by 12 in.

downwards, of considerable novelty. Microscopes, lent by members of the Microscopical Society, were also on view. During the interval a short programme of music was contributed. Owing to the success of the exhibition and entertainment, they were both open to the public on a second evening.

ABRAHAM'S PHOTOGRAPHIC ANNUAL, though not quite on the lines of the cheap handbooks, contains many practical hints which will be found of great use by both the young and the old amateur, and are not even to be despised by the professional. In addition there are articles on various subjects by Messrs. Lionel Clark, A. Pringle, A. R. Dresser, W. Jerome Harrison, E. J. Wall, and others. It also contains a complete list of apparatus, chemicals, etc.

To Correspondents.

THE insertion of **QUERIES** and **ANSWERS** is attended with much labour, and it is requested that the questions asked and the answers given shall be short and to the point. No charge is made.

All communications for the columns are to be addressed to The Editors, "Amateur Photographer," 1, Creed Lane, Ludgate Hill, London, E.C.

RULES.

1. Write clearly and distinctly on one side of the paper only.

2. Write each Query or answer on a separate sheet of paper.

3. Write the name and address legibly on the back of each communication, and sign all Queries and Answers with name or *nom de plume*.

4. All matters for these columns **MUST** be received by **TUESDAY MORNING'S POST**.

5. The Editors do not undertake to answer questions by post.

6. In answering Queries correspondents are requested to mention, in every instance, the number and full title of the query referred to.

QUERIES.

3436. **Aristotype.**—Should be glad of opinions on the merits of fixing before toning, with regard to (1) beauty, (2) permanence, (3) speed, (4) economy—all with special reference to aristotype paper?—G. M. SAVILE.

3437. **Object-Glasses of Field Glasses.**—Are the plano-convex achromatic object glasses of a field or opera glass suitable for mounting as a rectilinear lens? The components of a rectilinear lens are usually of the meniscus form, so I have been wondering if the fact of the above glasses being planos would prevent their being converted into a rectilinear. What would be the probable full working aperture of such a rectilinear lens, when used to cover a plate equal in length to the focus of the lens?—LENS.

3438. **Changing Bag.**—Will someone kindly inform me where an inexpensive changing bag (not one to go over the head) can be obtained?—W. J. W.

3439. **Instantograph.**—Would any amateur kindly give me his personal experience of Lancaster's half-plate Instantograph, and would he kindly give me his opinion as to the quality of the lens?—CHAS. DODMAN.

3440. **Set of Apparatus.**—I am only an amateur, and I am anxious to obtain a set of photographic materials. Will someone kindly tell me what camera, lenses, etc., I should commence with (not expensive), also the best half-plates? Where can Lockyer's hydroquinone be obtained?—H. C. DURNFORD.

3441. **Rough's Detective Camera.**—Will someone give description of shutter, whether time or instantaneous? Those who have used it might say how they like it.—W. SINCLAIR.

3442. **Spoiled Negative.**—How can I remove the silver from off the negative from which I have been printing? I have soaked in water, but that seems to have no effect.—ALL SAINTS.

3443. **Toning.**—I want to know how to get the real black tone for ready-sensitised paper?—W. H. A.

3444. **Japan, Plates in.**—Regarding a trip to Japan, can whole-plates be procured at various places *en route*, and dark-rooms obtained? Some

general information on the subject would much oblige.—YENDYS.

3445. **Opals.**—I intend trying some photographs on opal. Will someone kindly tell me the best plates and toning bath to use? Is there not a special printing frame required? Any hints will be most acceptable.—BANSHEE.

3446. **Opalina.**—I wish to try the opaline process of mounting photographs on glass, and would be glad to know the best mode of making the prints adhere firmly and evenly to the glass. Should they be mounted wet, and how are the backs fastened on?—BANSHEE.

3447. **Instantograph.**—Can some amateur photographer tell me if a quarter-plate Instantograph camera is preferable with square bellows (the old pattern) than with conical? Perhaps the conical bellows are better?—A. T. J. (Stockholm).

3448. **Merveilleux.**—Would anyone inform me if the Merveilleux camera can be fitted with an Instantograph lens, and instantaneous work, etc., can be turned out with it? Must any alteration be done with the camera itself?—A. T. J. (Stockholm).

3449. **Granularity in Emulsions.**—Can anyone tell me the cause of above; how to prevent it, and how to cure when it appears?—W. B. WOODLAND.

3450. **Hydroquinone and Intensification.**—Would Mr. A. E. Venn kindly tell me what sort of hydroquinone developer he uses to darken his bleached negatives in intensifying? Some time ago I bought some hydroquinone developer in two bottles. One contained the hydroquinone, and the other the sodic hydrate, I think. Ought I to immerse the plates in both or only one?—O'M.

3451. **Lantern Slides.**—In reducing to lantern size from a 12 or 10 negative, using a Ross' portable symmetrical lens of 9-in. focus, what must be the distance of the negative in front of the lens, and of the sensitive plate behind it?—NOVICE.

3452. **Lantern Slides.**—Using wet collodion with iron or pyrogallol developer, what is the relative difference in exposure (in camera for reduction purposes) between wet collodion and the various dry plates sold for such purposes? Is collodion quickest or slowest?—NOVICE.

3453. **Bromide Papers.**—I am using Ilford bromide papers, and develop with the formula given therein. As they are saturated solutions, how do I fill up again when getting empty, and in what proportion do I add potassium bromide and citric acid to the respective solutions? Any further hints on this subject will be gratefully received by—MAX BELLOWS.

3454. **Slide Exposure.**—Will someone who has used Griffiths' lantern-slide-making camera (half-plate) give me some idea as to the exposure required, say for an average negative and ordinary lantern plates (preferably Mawson and Swan's)—(1) By diffused daylight, (2) by ordinary gas burner, as used in contact printing for quarter-plates? I shall be much obliged by the results of anyone's experiences.—C. J. E.

3455. **Hydroquinone and Intensification.**—I note in your issue of February 7th a letter from Mr. Venn, stating an infallible cure for under-exposed and under-developed plates. Will he kindly make known (1) what developer he uses for his plates, and (2) what formula of hydroquinone he uses for darkening his intensified plates? I have for long bleached my negatives with a saturated solution of bichloride of mercury, darkening with a saturated solution of sulphite of soda, and my experience was quite the reverse of Mr. Venn's, for the results were very good. However, since I began to use hydroquinone as a developer in preference to pyrammonia, my attempts at bleaching the negative have proved signal failures, and I have often thought of asking the reason for this. The negative has been half an hour, and even an hour, in the mercury solution with no visible alteration, or, at least, the very slightest.—LOLA.

3456. **Dark-Room.**—Having just moved to Clapham Junction, and living in lodgings, I am quite unable to fix up a dark-room. Will some kind reader inform me where I can get the use of same?—AMSDEN.

3457. **Shutter, etc.**—Can anyone advise me as to the best shutter for either time exposures or very

rapid work, and price, quarter-plate? Also a gas lamp for dark-room? Can he also recommend the metallic binding slips for lantern slides, lately mentioned in **AMATEUR PHOTOGRAPHER**, and, if so, tell me where I can get them?—H. J. SIBTHORP.

3458. **Water.**—I shall feel greatly obliged if someone will kindly say whether it is possible to make absolutely pure water (from London cistern water) by any method or treatment other than distillation. Would boiling, coupled with filtration or chemical treatment, answer the purpose? It is required for an invalid in quantities of three gallons per day. Any information bearing thereon will be thankfully received.—ORDNANCE.

3459. **Loan of Negatives.**—Would anyone kindly lend me some quarter-plate negatives suitable for making lantern slides from? Views and seascapes, with shipping, preferred. Postage will be paid both ways.—A. H. LIVINGSTONE.

3460. **Hand Camera.**—Will any reader kindly inform me which is the best, cheapest, and most effective hand camera in the market for taking quarter-plates?—HENRY DUNDAS.

QUERIES UNANSWERED.

Jan. 3rd.—Nos. 3339, 3347, 3348.

10th.—Nos. 3353, 3354, 3356, 3359, 3364, 3367.

17th.—Nos. 3339, 3370, 3371, 3372, 3375, 3376, 3378, 3379.

24th.—Nos. 3333, 3385, 3386, 3389, 3392, 3393, 3394.

31st.—Nos. 3401, 3403, 3405, 3406, 3409, 3410, 3412, 3414.

Feb. 7th.—Nos. 3417, 3421, 3422, 3429, 3430, 3431, 3434, 3435.

ANSWERS.

3331. **Camera on Bicycle.**—As "New Rapid" bicycle is the most rigid made, it is unsafe to carry any camera on it. I have tried several carriers, and believe there are none to be depended on. I carry my quarter-plate in case with strap over right shoulder, which leaves camera free at left side, and, therefore, no inconvenience either in mounting or dismounting from machine. The stand, which is two-fold, is strapped to cross frame on side opposite gear wheel.—ANOTHER C. T. C.

3395. **Dark-Room Lamp.**—Procure a piece of wire netting, mesh say 1 in., 18 ins. by 22 ins., make a cylinder by joining with thin wire the edges of the shortest sides, allowing a lap of 1 in.; this will give a frame work of 18 ins. high and 7 ins. diameter. Cover this with cherry fabric, allowing an inch to turn over the frame top and bottom; this may either be sewn on or fastened with Page's glue. To cover the top, cut out a circular piece of sheet zinc 9 ins. in diameter, turn over 1 in. all round, so that it may fit over the cylinder, punch holes in the centre of the cover for ventilation, and over these place an extinguisher with a portion of one side cut out. For a light use an ordinary oil lamp, which can be purchased for ninepence. To lessen the light, if necessary, stretch a piece of orange paper on a wire frame, about half the size of the cylinder, and shape it to it. This can be moved round it as required. If the red light is objectionable, use a shade over the eyes. Whatever colour the lamp, this shade is a great assistance in watching development.—A. T. NEWINGTON.

3398. **Printing-out Opals.**—The emulsion for above can be had of first-class quality from Mr. H. Pickering, photo chemist, Highcross Street, Leicester, in bottles from 1s. each. It gives any tone to deep black in ordinary toning bath.—W. B. WOODLAND.

3415. **Printing.**—Try a strong acid, applied with a tuft of cotton-wool. If that does not answer, nothing will. The stain on the negative, caused by the silver in the paper, is generally hopeless.—W. A. J. CROKE.

3415. **Printing.**—Place the negative in the hypo bath, and let it soak till paper leaves the film easily and without any force being applied; afterwards, wash thoroughly.—T. L. BUCK.

3416. Bromide Enlargements.—Expose more fully, and keep proportion of iron in the developer down: follow their instructions, formulae, etc., and watch above point, and results will be quite satisfactory.—T. L. BUCK.

3418. Bromide Enlargements.—I have often found iron stains result from the paper sticking to the bottom of the dish when the acid is poured on. It should be raised and kept moving in the acid for at least one or two minutes.—PLATANUS.

3418. Shutters.—Would Tylar's self-portrait shutter do? It seems to be the very article you require, excepting its action, which is controlled by a piece of string in place of a pneumatic ball. See his list for engraving.—T. L. BUCK.

3419. Vevers' Lens.—Vevers' R.R. lenses are very good value at the price. You might find a wide-angle doublet of use in confined situations, but other than in such use the R.R. Ilford extra-rapid act very well under ordinary circumstances.—T. L. BUCK.

3420. Lantern Slides.—The ordinary quarter-plate answers admirably for lantern work, and its advantages are too obvious for comment.—T. L. BUCK.

3423. Stains.—In absence of more definite particulars as to nature of stains, it is really difficult to advise you.—T. L. BUCK.

3423. Stains.—Try an equal solution of citric acid and alum, for strength about 14 ozs. to 20 ozs. of water, and leave in soak for about ten minutes. If this does not do, try a stronger solution; not too strong, unless the negative will frill.—W. A. J. CROKE.

3424. Grinding Lenses.—If Mr. Wratishaw will read the articles on the "Reflecting Telescope," contained in vols. 5 and 6 of *Amateur Work* (Ward, Lock, and Co., Salisbury Square, E.C.), he will lose his "great wish to grind and polish" his own lenses; but he will gain the information he wants. He could borrow the volumes from R. D.,

3424. Grinding Lenses.—I should not advise you doing anything of the kind yourself if you value your lens; but send it to an optician or the maker, who will do the necessary for you.—W. A. J. CROKE.

3425. Switzerland, Ilford Plates.—Mons. B. Baud, Rue Verdaine, Geneva, will send you any Ilford plates by post to Marat.—J. H.

3428. Waverley Shutter.—Write to Mr. J. M. Turnbull, 6, Rose Street, Edinburgh, who will not do it send all particulars as to price, etc. He could probably supply carbon sheets for dark backs, as he makes a large quantity of them for detective cameras. There is no better shutter for a hand camera than the "Waverley," as it gives full exposure, does not shake, and allows of several speeds. It is fitted to the Turnbull detective camera, and works well.—P. Q.

3428. Forth Bridge.—A. Duthie, 6, Renfield Street, Glasgow, has a good variety of above at various stages in the shop window, and would no doubt send a selection on deposit or reference.—A. D.

3432. Hydroquinone.—If "Developer" has already developed two plates, it has done quite sufficient and is nothing in your debt. If really anxious to know whether its efficacy is destroyed or not, please try it and see.—T. L. BUCK.

3433. Opals.—See answer to 3398.—W. B. WOODLAND.

3437. Hydroquinone.—The changing of colour of the developer does not detract from its powers of developing in the least. I used a developer I had in the house for months the other day, and which had turned a dirty red colour. The only disadvantage is you cannot watch your negative so well. Exposure to the air generally turns the colour of the developer.—W. A. J. CROKE.

EDITORIAL.

NOTE.—Anyone requiring an opinion upon photographic apparatus, plates, etc., must give a number or initial for identification, as in no case will makers' names be inserted in this column.—EDS. AM. PHOT.

ISAAC MBINING (Cape Colony).—Both prints of sunset are excellent effects. Such pictures here, especially if that nineteenth-century very real railway could be omitted, would be much admired. The view would make a very charming lantern slide. You should compete, not with the print sent, in our "Monthly Competitions." Shall be glad of any views of Cape scenery. There is no need, in sending to us, to mount prints.

TYRO.—It is very absurd to send untuned prints. Those received from you are almost black, and it is impossible to pass any opinion upon them. Send us some toned ones, and we will give our opinion.

COMPETITOR.—The "Enlargements" contributed to our "Monthly Competition" are now going the round of the "Societies," and we are, therefore, unable to comply with your request. Your other suggestion we will consider.

JAMES FINDLAY.—We have no hesitation in recommending the camera you name for hand-camera work. You require a good light. Why should you fix upon f/11?

A. T. NEWINGTON.—We publish your answer re "Dark-room Lamp," and feel sure many of our readers will act upon your instructions, and make a lamp.

ED. HAWKINS.—The monthly competitions were established first to induce amateur photographers to compete for the AMATEUR PHOTOGRAPHER'S medals; and, secondly, in order to be able to loan collections of amateurs' work to photographic societies. We are, therefore, of course compelled to ask that the print (one) becomes our property. The pleasure and profit derived by the examination of the "Monthly Competitive" prints has been, and will be, very great.

C. WOODING.—Though against our rule, we have replied to you by post.

J. TAYLOR.—We never advise as to the best plates or apparatus in this column by name. Those first named in your letter have never "deteriorated." As far as we know, they are excellent plates. The second are universally good, and we have never found the least difficulty in "getting density."

MAJOR BECHER, R.A.—Have written to you. Your experiences in India will be most interesting to our readers.

H. H.—Very glad you have decided not to enter at Newcastle. It is unfair to both to link amateur and professional.

LENS.—You have named excellent lenses; but we should favour for your purpose A or B.

ALL SAINTS.—Your negative is probably spoilt. Why did you attempt to print before it was dry, and why did you not varnish? We insert your query; some of our readers may help you.

ALEX. KEIGHLEY.—Many thanks for your letter. "Prize Pictures No. 1." is published, or will be in a few days. Glad you endorse our remarks. Opposition to the awarding of medals from that quarter is really "too absurd."

H. MACLEAN.—Thank you for calling attention to the delay in sending down copies of AMATEUR PHOTOGRAPHER. Our publishers will see Messrs. W. H. Smith and Sons, and get the matter remedied.

T. W. BACON.—Will have the same set up, and proof sent to you.

E. M. H.—It is rather difficult to colour silver prints, but you can "work up" bromide prints with water colours.

J. D. MCKEADY.—Polytechnic Institute, Regent Street, W.

W. G. G.—We have not used either 1 or 2, but are pleased with what we have seen of both. No. 3 is quite a reliable instrument. In regard to No. 4 see our leader in January 24th issue. The lenses you mention are very good. Did we not give you our personal opinion when you called?

H. DENNIS TAYLOR.—Your excellent paper will be published in full in the PHOTOGRAPHIC SOCIETIES' REPORTER. We will send you slip proofs, and shall be glad if you make an abstract for the AMATEUR PHOTOGRAPHER, not to exceed two columns in length.

A. C. PEMBERTON.—You must conform to the conditions laid down by us in connection with our Lantern Slide Competition, or not enter your work.

T. J. BRIGHT.—We are quite contented to leave the matter as it was settled by the judges.

FLEET.—We are very much obliged to you for your notes, and are at all times glad to hear from subscribers as to the conduct of the journal. We will study your suggestions carefully, and adopt such of them as we can. We have many hundreds of communications, pamphlets, books, etc., that never receive attention because they have no bearing upon photography. One thing we would ask you when next writing: To use more paper, less ink, write in one colour, and pray don't cross your letter.

R. SHAW.—We have not the remotest idea what you refer to in yours of the 8th inst. On receipt of postcard will reply and return you the two stamps.

W. J. EARLY.—Your communication re dark lamp is to hand. We may at an early date refer to the same.

W. G. EVANS.—The print you sent us has the appearance of being printed from a badly-fogged negative, and sadly lacks definition. Glad you are going to give the "Country Cousin" plate. Am sorry we ever had the name of the seller. It has given us an immensity of trouble and no thanks. The letter you send us fully bears out what we have before stated, that they are "old stock."

PAUL LANGE.—We are writing you.

B. V. F.—We prefer No. 4 on your list, but this opinion need not be taken as detracting from the others, which are all good and serviceable.

ANXIOUS.—The camera you mention is a good and reliable one. The focussing is done by rack and pinion.

L. W. D. MAIR.—We certainly recommend it as a good all-round camera.

T. B.—Apply to the Curator, at the Gardens, for an artist's ticket.

BOLNEY.—Send us one or two of the faulty negatives, and we will try and advise you; without them we are powerless. The double image is, we think, caused by a shifting of the camera during exposure, possibly by wind.

IN THE DARK.—We cannot enter into details with regard to the lens named. We should prefer to go to the actual maker, and should recommend D on your list above the others.

PORPHYRIA.—We cannot give an opinion on the goods named. Why not bargain for a trial previous to purchase? We do not understand your other question.

TAPO.—Use two lights, one on each side of the figure, so as to prevent the shadows which trouble you.

R. O. S.—The camera is good for the money, but you can hardly expect to turn out the best work with it.

A. J. J.—The distance of diaphragm from lens should be two inches in the case named.

FLEK.—(1) We know nothing of the make named. (2) By far the best of the lot. Little to choose between 7, 8, and 9, therefore it would be well to consult contents of purse. Thank you for your valuable and appreciative remarks.

T. HARRIS.—At any electrical warehouse.

A. F. N. P.—Your slides are far too thin—probably from over-exposure. You would do well to choose a method of development which gives a black rather than a yellow tone to the positive.

F. F.—Why do you not try a simple experiment, which would at once satisfy you on the point? It is impossible to answer your question as it stands, for so many different circumstances must be taken into consideration.

ORDNANCE.—We are glad that you quite grasp our meaning with regard to reproductions same size as original.

H. M. P.—Get the manual published by the Autotype Company. You cannot have a better guide.

WORCESTER.—(1) Wormald's tables are as good as any, and easy to understand. (2) Add alkali in case of under-exposure, and reduce same in case of over-exposure. No alum bath necessary.

W. T. G.—Try Payne's formula with caustic potash, as brought some months ago before a meeting of the Newcastle Society, and duly chronicled in our columns. The plates in question are all coated of the same thickness.

DETECTIVE.—(1) Yes. (2) We do not recommend. (3) Should not advise a portrait lens for detective camera.

LEWIS M. BIDEN.—The last paragraph in your letter should form the matter for an advertisement in "Sale and Exchange" column—three words a penny.

F. A. HAHN.—Why not try the same firm's make of hand camera? It is a very good one.

L. O. SHACKELL.—A very good and useful camera; any lens can be fitted with an adapter or second front.

WALTER HUGHES.—Very many thanks for your prompt attention and courtesy in acknowledging receipt of letter.

G. WATERS.—Very shortly; perhaps we may be able to give date next week. Your opinion of the QUARTERLY is very gratifying and encouraging.

D. E. GODDARD.—We have not escaped. Have written Aylesbury re your papers, and will let you know. Sorry to hear so bad an account.

A. T. J. (Stockholm).—We cannot send you specimen prints. The "thing" is a cheap and rubbishy toy; we could not advise you to purchase it. Your queries are inserted.

E. L. BECHER.—Your supposition is undoubtedly the correct one.

Sale and Exchange.

RULES.—Four penny stamps for twelve words or less and one for every additional three words, must be enclosed with each advertisement, together with the name and address of the sender, which must be paid for, and sent to Hazell, Watson, and Viney, Ltd., 1, Creed Lane, Ludgate Hill. A single figure, or group of figures undivided by letter, space, stop, or words counts as one word; compound words count as two words.

DEPOSITS.

Deposits for goods to be forwarded on approval may be made with our Publishers, who will hold the amounts deposited until they are satisfied that the transaction has been executed to the satisfaction of both parties. Cheques and Post Office Orders should be made payable to Hazell, Watson, and Viney, Ltd. A nominal charge 1s. is made of whether a sale is effected or not.

N.B.—Trade Advertisements cannot, under any circumstances, be inserted in this column. Such advertisements can be inserted elsewhere at the Trade Sale, which may be obtained on application to Parry and Crawford, 1, Creed Lane, Ludgate Hill, London, E.C.

Artists' Oil Colours, brushes, cost 30s., sell, or exchange quarter camera.—Girling, Crown Street, Diss.

Cameras.—Nearly-new modern half-plate camera, perfect, latest improvements, three double slides, and tripod.—Jones, Enfield House, Uffculme, Devon.

Kodak camera, equal to new, price 72s. 6d., cost 105s.; would exchange with little cash for Ross'

half-plate Universal lens.—Bygrave, 15, Canterbury Road, Brixton, S.W.

Kodak, containing film unused for 80 exposures, only used once, in perfect condition; £4.—Can be seen at Stereoscopic Company's, 110, Regent Street, W.

Cameras, etc.—Lancaster's 1888 Instantograph camera, two double dark-slides and stand, in good condition, with case, complete, 40s.; also eight vols. *AMATEUR PHOTOGRAPHER*, bound; what offers?—Photo, 8, Cobham Street, Gravesend.

Splendid whole-plate camera, slides, and tripod, with shutter attached, latest improvements, good maker, on approval; price and particulars.—Photo, 315, Crookesmoor Road, Sheffield.

Camera Bellows.—Camera bellows. Amateurs requiring such should apply direct to the manufacturer. Every description made. Manufacturers supplied at reduced prices. Stamp for reply. — J. Johnson, Back 181, Irving Street, Birmingham.

Camera Case.—Half-plate canvas camera case, shoulder straps, excellent condition; 6s. — F., 32, Binglefield Road, Clapham.

Dark-Slides.—Three whole-plate dark-slides, with ebonite shutters; 4s. 6d. each.—Wratislaw, Braunston, Rugby.

Dark Tent.—Portable dark-tent, in leather case, with sink, shelves, ruby window, condition as new; cash 20s.—Moulds, South Wigston, Leicester.

Hand-Camera.—Diamond detective camera, perfect, 21s., or exchange quarter camera; wanted, 5 in. condensers.—Tooth, Caldecott Street, Rugby.

Lantern.—Hughes' Pamphengos lantern; cost £1 4s.; will take £2 15s.; good as new.—C. Naylor, Batley.

Lenses.—Splendid half rapid rectilinear lens; 2½s.; bargain.—Bull, 5, Alvey Street, Waltham.

Grubb's 3B quick-acting portrait lens, 3½ ins. diameter; what offers in cash, or half-plate outfit, good make?—C. Naylor, Batley.

Half-plate Lancaster's instantaneous lens, with Iris diaphragm and patent shutter, new last year, 20s., bargain; doublet lens, quarter-plate, 5s.—Wm. Tench, Church Street, Kidderminster.

Half-plate lens (by Darlot), with stops, equal Ross' Universal lens; price 35s.—Bygrave, 15, Canterbury Road, Brixton, S.W.

Lens, etc.—Pair of Dallmeyer's quick-acting single stereo lenses, 4½ in. focus, quite new, £3, or exchange for pair of 6 in., same maker. Rouch's portable dark-tent, with waterproof case and tripod, nearly new. £3.—Dollery, 57, Charing Cross, S.W.

Musical Box.—Good 8-airy musical box for good quarter camera and back.—C. Lambert, 6, Stanley Road, Leeds.

Negatives.—Foreign views, lantern negatives, 4s. per dozen; sample 7d.—41, Trafalgar Road, Old Kent Road.

Sets.—Lancaster's 1889 half-plate Instantograph camera, complete throughout, and in finest order; all latest improvements, reversing back, leather bellows, all movements, fitted with a rapid rectilinear lens, Waterhouse stops, very fine definition, covers plate to edge, slide carrier and folding tripod; lot complete, £3 15s.; approval.—Cooper, 9, Sussex Terrace, Markfield Road, West Green.

Quarter camera, landscape lens, light fourfold stand, 22s.—Wooding, Castle Ashby, Northampton.

Half-plate Instantograph, reversing back, instantaneous lens, shutter, two double backs in leather case, patent universal stand in case, new condition, £4 15s. J. Cass, Cocker Street, Blackpool.

Half-plate International camera R.R. lens, 3 mahogany double backs, instantaneous shutter, Ashford's patent tripod, nearly new; also 5 dishes, 3 printing frames, a few Ilford plates, chemicals, etc., £5 10s., approval.—E. J. Organ, 12, Woodlands Terrace, Swansea.

For sale—a Lancaster's Le Meritoire quarter-plate camera, with lens, tripod, and 2 double backs; also *Science Gossip* for 1883, 1887, 1888 and 1889; the lot, 38s.—Frank Duncan, 6, Grosvenor Road, Gunnersbury, W.

Watson's half-plate latest pattern Premier camera fitted with Watson's R.R. lens, tripod, 2 double backs, 2 carriers for quarter-plate, complete in solid leather, velvet-lined case; only used few times; price £10; approval on deposit.—E. F. C., care of Dalley, 57, High Street, Putney.

Marion's unique half-plate camera, six double backs, tripod, Lancaster's instantaneous lens and shutter, £5; Underwood's City detective camera, £2; Optimus 7 by 5 lens, £2; Lancaster's half wide-angle lens, £1; all nearly new.—Cuthbertson, junr., Church Street, West Hartlepool.

For sale—complete whole set, consisting of Optimus R.R. lens, Elliott camera, 3 double dark slides, printing frames, dishes, tripods, etc.; approval deposit system.—Evans, Minehead, Somerset.

Kodak, never been used, 3 gs.; half-plate camera, all modern improvements, leather bellows, long focus, 6 mahogany double backs, 90s.—Shaw, 5, Gt. Ancoats, Manchester.

Half-plate camera set by Wood, Cheapside, three double backs, Trafalgar R.R. lens; all complete in solid leather case, with patent lock, and tripod stand; cost 11 guineas; cash £8 10s.; or exchange for safety bicycle; must be light and good make; also whole-plate and 10 by 8 R.R. lens, whole-plate view lens, carte burnisher, developing tent; cheap.—44, Bower Street, Maidstone.

Lancaster's quarter-plate Instantograph camera, with lens, stops, and Instanto shutter, folding tripod, 2 double slides, 3 dishes, 3 printing-frames, ruby lamp, 2 negative boxes, carrying case for camera and slides; the whole, 40s., or exchange with cash for half-plate, same make.—Moulds, South Wigston, Leicester.

Lancaster's Instantograph lens, half-plate, Iris diaphragm and shutter, price 20s., very little used, or exchange for two double dark-slides (book form) of same set; approval.—Evers, Paversham, Kent.

Half-plate, best quality camera, with 4 double backs by Perken, Son, and Rayment, 4-fold tripod and solid leather case to take lot, all equal to new; cost 203s. 6d.; price 140s.—Bygrave, 15, Canterbury Road, Brixton, S.W.

An American Seoville Co's landscape camera, with 3 double slides and leather case, also portable tripod stand, and Ross' symmetrical lens; all in good working order; cost over £12; for £7 10s.—Henry R. Taggart, junr., Tontine House, Cross, Glasgow.

Half-plate light Universal camera, three slides, reversible back, double swings, four-fold stand, turntable top, double extension, 3B Suter lens and detective case, cost £18 18s., price £12 12s., or reasonable offer; Watson detective camera, new, price £7.—6, Montford Place, Kennington, S.E.

Shutter.—Kershaw shutter, with adapters to fit any lens; 12s.—Bygrave, 15, Canterbury Road, Brixton, S.W.

Shutter, etc.—Leiske's patent instantaneous shutter for half-plate, 15s.; Stereoscopic Company's perfect photometer, 5s.; the two for £1; in good condition; cost almost double.—S. C. Leech, Chetwynd House, Derby.

Sundries.—Cash or photographic exchange wanted for small gold watch, 1 in. diameter, 80s.; Lerebour's half-plate portrait lens, 40s.; 5 by 4 camera and portrait lens (by Dale), 20s.; gas bag, retort, spirit jet, etc., 40s.; dipping baths, silver bath, and collodion and Woodbury's actinometer, etc.; wanted good shutter, rectilinear lens, backgrounds, posing chair, or other offers.—No. 48, AMATEUR PHOTOGRAPHER Office.

WANTED.

Apparatus.—A photographer opening a branch studio shortly would like to hear from anyone having portable studio lenses (Ross or Dallmeyer), cameras, or other accessories in good condition.—Particulars and lowest cash price to Thompson, Omagh, Ireland.

Burnisher, etc.—Half-plate burnisher, dishes, carriers, cheap.—88, Albert Road, Croydon.

Camera, etc.—Will give first-class half-plate (new last July) and cash for equally good whole-plate camera; wanted also, some dishes, 12 by 10.—Send full details to Crossley, Rodley, Leeds.

Double Backs.—Double backs for Lancaster's half-plate Instantograph.—A. K., 8, Leabourne Road, Stamford Hill, N.

Hand-Camera.—Shew's Eclipse hand-camera, with changing back; 5 by 4 or half-plate preferred. E. T. Wood, 18, Barbican, London.

Fallowfield's Facile or Abraham's detective camera.—6, Montford Place, Kennington, S.E.

Lenses.—Pair of R.R. lenses for stereoscopic work.—C. Naylor, Batley.

Half-plate R.R. lens; give in exchange printing press and quantity of type, or sell 35s.—4, Park Hall Place, East Finchley.

Dallmeyer's 1½ in. R.R. lens.—Field, 81, Ossulston Street, N.W.

Lens, Tripod, etc.—Watson's cyclist's tripod, with sliding legs; half-plate wide-angle lens and pair good stereoscopic lenses.—Higgin, 202, Upper Brook Street, Manchester.

Mount.—P. C. S. A. 5 by 4 true view lens shut mount.—Langlands, Pleasance, Dundee.

"Phot. Soc. Reporter," No. 1.—Fulcr, Rampant Horse Street, Norwich.

Shutter.—Thornton-Pickard (time and instantaneous) to fit lens-hood 1½ ins. diameter.—Boothman, 46, Thurlow Street, Salford.

Thornton-Pickard time and instantaneous shutter to fit 2½ lens; approval.—E. N. Ellis, 2, High Street, Wavertree, Liverpool.

Set.—10 by 8 or 10 by 12 outfit, camera, slides, lens, tripod, etc., preferred, or separate; good makers; cash.—"Plates," H. Vears, Staines.

Half-plate camera, lens, etc. (complete set), good make; state particulars and price.—Weatherly, Eaton Street, Hanley.

Wanted good half-plate camera, lens, and slides.—Evans, Minehead, Somerset.

"The high-water mark of modern Photography."—*Art Journal*.

SUN ARTISTS.

Published Quarterly. Price 5/-.

The Second Number, containing Four Photogravures after Negatives by Mr. H. P. Robinson, is now ready.

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KEGAN PAUL, TRENCH, TRÜBNER & CO., LIMITED.

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"AMATEUR PHOTOGRAPHER" MONTHLY PHOTOGRAPHIC COMPETITIONS.

THE PROPRIETORS OF THE AMATEUR PHOTOGRAPHER will offer, Monthly, two prizes, consisting of a

SILVER AND A BRONZE MEDAL (WITH RIBBON AND CLASP)

for the best and second-best photographs sent in to each of their Monthly Competitions. The subject of the Competitions will be as follows:—

LANDSCAPE OR SEASCAPE	Feb. 14 ...	June 14.
LANDSCAPE WITH FIGURE	Mar. 14 ...	July 14.
GENRE OR FIGURE STUDY	April 14 ...	Aug. 14.
INSTANTANEOUS PHOTOGRAPHS, ANIMALS, ETC.	May 14 ...	Sept. 14.

Entry forms on receipt of stamped addressed envelope.

THE FORTH BRIDGE.

IN view of the interest taken by all engineers, students, and others in the Forth Bridge as a triumph of engineering skill, the proprietors of the AMATEUR PHOTOGRAPHER have pleasure in offering the following Prizes for the Best and Second Best Set of Four Photographs:—

<i>First Prize</i>	Silver Medal and £1 1s. 0d.
<i>Second Prize</i>	Bronze Medal and 10s. 6d.

Photographs must be sent in on or before **Monday, the 10th of March**. This date will permit of photographs of the Opening Ceremony, which is to be performed by H.R.H. the Prince of Wales on the 4th of March.

The proprietors will require the use of the negatives of the prize photographs. If any competitors are willing to leave their prints in the hands of the Editors of the AMATEUR PHOTOGRAPHER, they will have pleasure in circulating them amongst the photographic societies.

All Competitions to be addressed:—"Forth Bridge Competition," The Editors, *Amateur Photographer*, 1, Great Lane, Ludgate Hill, London. E.C.

"AMATEUR PHOTOGRAPHER" MONTHLY COMPETITIVE PAPERS, 1890.

THE following Prizes are offered for competition every month:—

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THE AMATEUR PHOTOGRAPHER

Editors:—CHARLES W. HASTINGS & T. C. HEPWORTH, F.C.S.

TELEPHONE
No. 1645.

Offices: 1, Creed Lane, Ludgate Hill, London, E.C.

TELEGRAPHIC ADDRESS,
"VINEY, LONDON."

VOL. XI. No. 281.]

FRIDAY, FEBRUARY 21, 1890.

[PRICE TWOPENCE.]

OUR VIEWS.

"To hold as 'twere the mirror up to nature."—*Shakespeare.*

THE Crystal Palace Photographic Exhibition will be opened on Tuesday, March 11th, and it is now quite certain that although one or two leading London firms may not exhibit, there will be a far larger number of exhibitors from the provinces, and the apparatus section will be thoroughly representative. We cannot speak too highly of the Challenge Cup competition, open for competition to any photographic society in the United Kingdom, the only condition being that the society, as such, must send at least fifty pictures. We are pleased to be able to state that there is little doubt that, although the conditions were only recently made public, several societies will enter. We feel satisfied that when it is known that the challenge cup will become the actual property of the society who are awarded it three times during seven years, there will be eager competition.

* * * *

As far as at present arranged, almost the whole of the pictures contributed to the AMATEUR PHOTOGRAPHER Prize Tour Competition will be exhibited, and we would ask competitors to send their work in frames, or allow us to frame the same; prices are given in our advertisement pages. We would also urge competitors to forward their photographs, framed or unframed, as soon as possible, especially as a catalogue has to be prepared which will be incorporated with the Exhibition catalogue. We have very great pleasure in informing competitors that the whole of their work will be entered as for the general exhibition, and each competitor's work in the Prize Tour Competition will stand the chance of being awarded a prize at the hands of the judges of the Crystal Palace Photographic Exhibition, in addition to those offered by ourselves.

* * * *

WITH regard to the slides entered in our Lantern Slide Competition, we have the pleasure to publish in another column a list of competitors. Some 600 slides have been received from fifty-nine competitors. They will be judged to-day (Friday), and the award of the judges, Messrs. J. Gale, C. Hussey, and Lyonel Clark, will be published in next week's issue. We shall, through the courtesy of the Directors of the Crystal Palace Company, and with the

assistance of Mr. Brooks, exhibit a selection of slides on the afternoon of Friday, the 14th, and another selection on Saturday evening, the 15th of March. A ticket admitting two to the exhibition and lantern show will be forwarded to each competitor, and be available either on the afternoon of the 14th, or the evening of the 15th. On the Friday we shall invite our competitors to take "afternoon tea" with us, for which purpose a pass to the tea-room will be sent with the ticket. We shall hope by this means to make the personal acquaintance of many of our readers who enter the AMATEUR PHOTOGRAPHER Competitions, and who hold at such a high value the medals we place at their disposal.

* * * *

WE have been asked to remind intending exhibitors that the last day for entering photographs for the Crystal Palace Photographic Exhibition is the 1st of March.

* * * *

ALL photographs, framed or unframed, for the AMATEUR PHOTOGRAPHER Prize Tour Competition must be sent addressed to 1, Creed Lane, Ludgate Hill, London, E.C., by the 28th of February.

* * * *

WE were hardly in order in crediting Mr. Ernest Beck, Hon. Secretary of the Sheffield Photographic Society, with getting up the Lantern Exhibition to be held next week. The scheme, it appears, originated with Mr. Frith, Vice-President, and was at once taken up by the President, Mr. B. J. Taylor. It is to be a "members' show;" even the lecturer and operator are to be members. The object of the exhibition is to give financial help to the building fund of a local hospital and dispensary. Mr. Beck writes, "They are trying to extend their usefulness, and in this way so are we."

* * * *

THE loan of AMATEUR PHOTOGRAPHER lantern slides has resulted in scores of most grateful and thankful letters. We shall be glad of gifts, not for ourselves, but to help those who work so hard to give pleasure to others. We will loan slides to anyone wishing to instruct and

amuse those who, owing to circumstances not under their own control, are unable to gain instruction or rational amusement themselves. We insist upon the *skilling packing fee*, and a quick return of the slides. During the summer months we hope to arrange slides for evening entertainments, with rough notes to help the demonstrator.

* * * *

WE have received the second number of *Sun Artists*, and do not intend to waste space upon a critical review. The illustrations we will dismiss with but a few words; those issued with No. 1 had faults which we very clearly pointed out, those in No. 2 are no better, and we are sure that Mr. H. P. Robinson will not be at all gratified to find that the much-vaunted photogravure has only yielded him prints which are but a shade better than those to be pulled from any type-block. If our readers doubt the assertion, let them compare the reproductions of Mr. Robinson's photographs in the last edition of "Picture Making by Photography," with those in the issue of *Sun Artists* now under notice, or compare them with the Woodbury prints from Keighley's negatives, in AMATEUR PHOTOGRAPHER "Prize Pictures," No. 1. For the descriptive essay and biographical sketch by Mr. Andrew Pringle, we have nothing but praise. It is a charmingly written essay. In it the writer never allows his intimate knowledge of and sincere friendship for Robinson to get the upper hand, and run into "gush." The opinions expressed on every point are those that must be held by all liberal-minded and right-thinking men. It is impossible to read such an essay without having a higher sense of the possibilities of photography, and understanding how the love of it enabled Robinson, amongst others, to release it from the charge of being a "vile mechanical handicraft," and elevate it to an art which even the most eminent painters in the kingdom have used as a handmaid and a helpmate in the building up of their most famous pictures.

* * * *

THE prints contributed to the Monthly Competition, "Landscape and Seascape," will be on exhibit at our offices all next week.

* * * *

THIS is what a *professional* photographer in North Brunswick says of the AMATEUR PHOTOGRAPHER:—"Recently a friend brought me a parcel of AMATEUR PHOTOGRAPHERS, and in an idle moment I betook myself to reading one of them, and to my surprise, I got so interested in the cleverly written articles that they contained, that I neglected everything else. The articles are so cleverly discussed and explained, that I think it is a pity your paper is not better known to professionals in Canada."

* * * *

THE following letter has reached us from a correspondent:—

"I know that at a recent exhibition held at Guisborough, prizes were offered for amateur photography, and the second prize was awarded to a man who had not only forfeited his standing as an amateur, by selling his work for a profit, but has actually for some time past published a *trade advertisement*, soliciting orders from the public for portraits, groups, and all kind of photographic work. He has also weekly published a photograph of some prominent football player, and had lads selling the same in the streets. Now, sir, is not this a flagrant breach of all rules regulating AMATEUR PHOTOGRAPHER competitions; and if men trading in photography in this manner be allowed to compete in amateur competitions, where is the distinction? I really think that such a glaring case of inconsistency

deserves exposing. If you think the same, perhaps you will find room for this in the next issue of the AMATEUR PHOTOGRAPHER."

WE have no remembrance of an exhibition at Guisborough, and certainly do not think it likely that the exhibition was held under the AMATEUR PHOTOGRAPHER conditions, or that our medals were offered for competition. We shall be pleased to hear more of the subject. It is now so well known all over the world that professional photographers are not eligible to enter in competition for the AMATEUR PHOTOGRAPHER medals that we cannot think that one of the medals is likely to have been awarded to a man whom we should describe as neither "fish, flesh, fowl, or good red herrin'." Our conditions are drawn in such a form that no professional photographer could honestly enter the competitions and sign the declaration.

* * * *

A MEETING of those in favour of forming the Croydon Camera Club will be held at 8 p.m. on Tuesday, 25th, at Room 2, Public Hall, Croydon. All who approve the project are requested to attend, or, should they have previous engagements, write their approval to Mr. H. Maclean, 34, Birdhurst Road, Croydon. Already a very considerable number of gentlemen are prepared to support the movement.

* * * *

GAS CYLINDERS.

THE supply of compressed gas in cylinders has now become an industry of no small dimensions, and although to most of our readers it may be regarded as something quite new, as a matter of fact gases so compressed have now been in the market for many years. But as it is only quite recently that the two gases used for the lime-light have been so supplied, the system, although it is not new, has not, perhaps, come within the ken of photographers, for in this last application of it only are they interested. Dentists have for a long time used nitrous oxide in this form, as the safest and most convenient anæsthetic for minor operations, and carbonic acid so compressed has been for many years purchasable, and has been thus used by lecturers and in certain industries. But although oxygen has been prepared and compressed for sale in cylinders for some fifteen or more years, its supply did not become at all general until by the Brin process it was found possible to separate oxygen from its association with nitrogen in the atmosphere, and to furnish it to consumers at a cheap rate.

No sooner was oxygen thus supplied, than there came a natural demand for hydrogen, for, as all know, the most effective limelight is attainable only when these two gases are placed under pressure. (We leave out of consideration here the new methods of using oxygen in conjunction with the vapour of ether, benzoline, etc., regarding them as being still in the experimental stage, although we know that an extremely brilliant light can be obtained from them.) The system of compressing gases offers many advantages to the worker. The two bottles containing sufficient gas to last for an ordinary evening's work occupy only a fraction of the space required by the bulky india-rubber bags and pressure boards which they supplant. No weights are needed, and weights are sometimes, owing to the common employment of new forms of weighing apparatus, uncommonly difficult to procure at short notice. Another advantage is represented in the time and trouble

saved in the avoidance of the tiresome and rather dangerous business of making oxygen gas, and in filling the hydrogen bag from the main. With regard to this latter operation, we have occasionally been called to show the limelight in a district where gas lighting is unknown, and have had to take the bag to be filled at a distant town. All these mishaps and inconveniences are avoided by the use of bottled gasses, so that it need not be wondered at that cylinders are now superseding bags.

But in exchanging new lamps for old we must have every confidence in our bargain, and must feel sure that the newly found friend is to be trusted as much as the one which we discard. Some workers are disposed to look askance at the cylinders, and to ask whether they are safe to use. They are rather frightened when they first learn that the internal pressure is that of 120 atmospheres. They know that one atmosphere means a pressure of 15 lbs. on every square inch, which multiplied by 120 gives the sum of 1,800 lbs. on the inch. This means roughly that the initial pressure upon the interior of one of these cylinders amounts to about twelve times as much as that at which a locomotive boiler is usually worked. This is a somewhat startling statement to those who know nothing about the tensile strength of metals; but their alarm will be allayed when it is known that the cylinders are tested by the makers to more than double the pressure stated.

Very few accidents with these cylinders have up to the present been recorded. One exploded with fatal results at Woolwich some years ago during some ballooning experiments; but we may be certain that the cylinder in this case was not so carefully made as those now issued. Then a couple of years ago, a terrible accident, in which the chief actor perished, occurred at Dublin. In this case it was proved beyond doubt that the man who lost his life foolishly tried experiments with a cylinder which contained an explosive mixture of hydrogen and oxygen. A third fatal accident occurred only the other day at Glasgow, and this one seems to be due to some unexplained cause. The Secretary to Brin's Oxygen Company, in a letter which has been published, states that this accident did not occur from over-pressure, but from spontaneous combustion of mixed gases. We do not know his authority for this statement, for we were under the impression that the mixed gases, hydrogen and oxygen, although possessing terrible explosive power, required the application of a spark or light before they could explode. He bases his opinion upon the circumstance that a piece of the cylinder which was picked up near the scene of the disaster was quite hot. But surely this does not necessarily prove that actual ignition took place, for the violent disruption of the metal would be quite sufficient to account for the evolution of great heat. There is certainly room for enquiry and experiment here. Gases under great pressure have not hitherto come under the notice of physicists, except, perhaps, in those notable instances some few years ago when the so-called permanent gases were reduced, by far greater pressure than that we are now considering, to the liquid state. If gases mechanically mixed together are liable to spontaneous combustion, it is a circumstance not hitherto known to chemists, and one which demands enquiry. We are rather inclined to believe that in the Glasgow case, supposing that ignition of the gases actually took place, the initial heat may have been due to some foreign body—possibly oxide of iron.

Letters to the Editors.

CHEAP PLATES.

SIRS,—I have seen a lot of writing from time to time in your useful paper upon the so-called overcharge in the price of dry plates, and cannot refrain from a line or two. I think the complainers on that score are in want of something to grumble about, as I have myself often wondered where the profit can lie when one looks at a whole-plate, for instance, for fourpence; the size of the piece of glass, the carefully prepared emulsion, the squarely cut glass, the flatness of the glass, and the whole thing together requiring careful manipulation in the manufacture.

If the user of the plate is a professional and has brains enough in him to obtain a good business, it should be worth its present price to him; and if he is an amateur and feels the loss of the cash now paid for a good dry plate, I would say, let him at once give up the expensive hobby of amateur photography for some "amusement" of a more economical kind. The "workmen" have to live as well as the manufacturer. The motto of some of the complainers as to the great price of dry plates should be "Live and let live."—Yours,

A. W. GOTTLIEB.

* * * *

"THE ARMSTRONG ILLUMINATING CHAMBER."

SIRS,—I do not know if I am overstepping my bounds in addressing you on this subject, but no doubt you will be the best judges, and publish or withhold same as you think best.

While not desiring to detract from Mr. Armstrong's invention (?), and not knowing his method of working same, I will give you a description of a chamber I have had in operation since October, 1889. The idea emanated with myself.

Having asked an amateur friend how to make lantern slides by reduction, he told me to place my negative in a window and block out the surrounding light, and photograph that coming through the negative. After trying this method for some time, it struck me that by artificially illuminating the negative I need not rely upon the weather.

My method of procedure is as follows: Having procured an ordinary packing box of about 2 by 1½ by 3 ft., I cut a hole in the lid corresponding to printing frame (in this case half-plate), and fixed the frame in it. I next placed my negative, with a piece of ground-glass behind it, in the frame, and put a gas burner behind this. I found the negative brilliantly illuminated, but a flare-spot in the centre. This I found would not do.

I next tried with two paraffin lamps, one on each side of the negative, and shaded the negative from direct rays by a piece of cardboard on each side of the negative, and was pleased to find a perfect illumination all over.

I have made a few slides in this way, and am perfectly satisfied with the results. My method, as you will see, is inexpensive and one many amateurs like myself can practice.

I intend shortly to try enlarging by its means. The method I propose following is to place my camera in the same way one would do for daylight enlargements.

The ordinary yellow pine box answers well, but I find it better to pin sheets of white paper inside the box, and so increase the reflected light power.

VERITAS.

* * * *

HYDROQUINONE AND INTENSIFICATION.

SIRS,—Contemporaneously with my letter to you on this subject there appeared in the pages of the *British Journal* an article on "Control in the Density of Negatives," in which the writer, Mr. Chapman Jones, treats of the actions and results of mercuric chloride, sodium sulphite, and ferrous oxalate, when used for the purpose of intensification.

All I am able to gather from the maze of equations and chemical technicology is, that, according to some analysts, the sulphite produces "a transient blackening," which confirms my experiences; that the writer's experiments are admittedly incomplete; and that he prefers the ferrous oxalate as a darkening medium. Until I tried hydroquinone, so did I.

I think, however, he is wrong in claiming to be the first to recommend ferrous oxalate, which he says he did in 1888; for it was advocated by Messrs. Burton, in the *British Journal* (pp. 287, 294) as far back as 1881!

Perhaps Mr. Chapman Jones won't mind adopting the sug-

gestion of an humble amateur like myself, and testing the powers of hydroquinone, as recommended by me. It may be that, after all, the darkening is in some measure due to the presence of the sulphite in the hydroquinone developer I use. But if so, the latter has a salutary effect upon the sulphite, which, when used alone in a five or ten per cent. solution, has a capricious and irregular action, and if the image is a weak one, occasionally effaces it entirely.

One of your querists, "Lola," does not seem to have yet discovered this; but if she wants practical proof, let her immerse a negative in a sulphite solution, and, under certain circumstances, she will soon look for the picture in vain. Indeed, I have often used sodium sulphite instead of ferriyanide of potassium for the purposes of reduction.—Yours, etc.,
A. E. VENN.

* * * *

ECONOMICAL USE OF THE ROLL-HOLDER.

SIRS,—I read the article which appeared in last week's issue about "Hints Respecting Roll-Holders," and I should like to mention a way I have found of avoiding the slightest waste when cutting the film. Last summer I used in a half-plate Eastman roll-holder a roll of Morgan and Kidd's negative paper. I had occasion to cut the film two or three times, and to avoid waste I cut a piece of gummed paper the exact width of the film, and about 15 ins. long. I then damped about three-quarters of an inch of one end, and stuck just that width of damped part to the back of the film end. The free end of the gummed paper was then clamped on the winding reel, and the edge of the film pressed on the perforating points (these having previously been set in the correct position for indicating exposures), and the gummed paper wound up tightly. It was then ready for use. When I again cut the film, all that was necessary to do was merely to cut the gummed paper along the first edge of the film, and stick it to the next piece in the same way as described above. The piece of gummed paper left on the back of the cut film readily came off in the developer.—Yours faithfully,

E. H. GILBERT.

* * * *

IS HYDROQUINONE POISONOUS?

SIRS,—On looking over the letters which have appeared from time to time on the above subject, I think the following facts may be of use in its elucidation. When experimenting with this developer some time back, my attention was drawn to the peculiar nature of the stain produced by this developer. Unlike the pyro stain, acids had little, if any, effect in removing the stain, but, on the contrary, seemed to increase it in some cases, transforming it from a lemon-yellow to a much ruddier colour. Working on these facts, I came to the conclusion that the stain was nothing more nor less than a *chromate* stain, and resolved to try just the reverse for its removal, viz., *alkalies*, with the result that liquor ammonia instantly removed all trace of stain, and being, for obvious reasons, superior to any other alkali for this purpose, I gave the requisite strength for its use in my letter which appeared in the issue of the 26th July last. All this would seem to prove that hydroquinone is a chromate salt, but whether it is originally so, or when in conjunction with certain alkalies, or during the developing action, that the chromate salt is formed, has yet to be proved. But in any case, if a chromate, poisonous as all chromates are, and "A Victim" seems certainly to have suffered from chromate poisoning, though in all my experiments with this salt, I have not experienced any such symptoms as described by "A Victim."

My opinion is that such would only occur from the use of the same developer several times over, and the decomposed component parts work their way through cuts in the fingers or hand, and thence into the blood, and being at the same time in a bad state of body; otherwise this developer, "I hold," is as safe as our "old friend" pyro.—Yours truly,
S. N. GORDON.

* * * *

PLATINUM AND GOLD.

SIRS,—I am sorry there has been no reply to the short letter that I wrote you a few weeks back *re* platinum gold prints, as I felt certain several workers would have *something* to say on the subject. Am I to understand it to be a new idea, or is it possible that the idea was too well known to cause any notice? I am afraid I shall be unable to further experiment (at any rate, for

some time to come), but hope others will try and develop the idea so as to be of real use. All I did was as follows: I printed on the "cold bath" paper just as for that process, and then having "damped" as usual, I brushed carefully but quickly a solution of gold chloride 1 grain, water 2 drachms, over the print, when it quickly changed to a purple colour, due to the reduction of the gold. Now, could not the colour be altered by suitable additions of some salt or salts? If so, a very pleasing tint might result, and the print could not fail to be quite permanent.

If there are any amateurs who suspect their ruby lamps to be "unsafe," then I strongly recommend them to use in front of the glass a screen of the orange (not yellow) paper, like some plates are wrapped in. This allows the light to be turned high, and gives a very pleasing and healthy light; at least, I always have found it so, and the plates may be developed quite close to the lamp with perfect safety. I not long ago tried the fogging effects of the different lights, and found the pale ruby glass to cause much fog in ten minutes; the dark ruby not so much fog, but yet enough to spoil plates; but the light ruby and orange paper, although appearing to give more light than either of the others, produced a quite imperceptible and un hurtful fog, in fact none to speak of. The sensitive surface being six inches from the flame in every case. I am, sirs, yours faithfully,

February 17th, 1890.

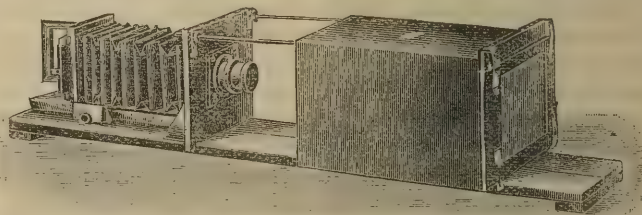
SYDNEY WEISS.

Apparatus.

PEARSON AND DENHAM'S REDUCING CAMERA FOR LANTERN SLIDES.

We have received from Messrs. Pearson and Denham, of New Station Street, Leeds, a very excellently designed and manufactured reducing camera for lantern slides, which has been provisionally protected. The illustration given will help our readers to understand the construction and working of the camera.

One of the novel features of the camera is the sliding rod arrangement in place of telescopic boxes or bellows, by the use of



which the lens is left open and free. The spring carrier for negatives permits of any part of the picture being copied. The opening of the focussing screen is of the same size as a finished lantern slide, showing at a glance the amount of subject that will come in on the plate. The dark slide is so constructed and secured that no displacement can take place, and no "sliding in" is necessary. All slides are made to gauge, and can be supplied in any number without fitting each one to camera back. It will be noticed that the box carrying the negative is of sufficient length to exclude all harmful light. The focussing cloth may, however, be thrown over the brass rods if desired. The rods can be lengthened or shortened by unscrewing the milled nuts and passing the rods further through the sockets.

Any lens from 5 inch to 8 inch back focus can be used; the makers say that either a half or quarter plate rectilinear are suitable, and the focussing can be effected with full aperture, the lens being stopped down during exposure to *f*/16. The negative is easily centred on the screen.

The camera is really a most useful and serviceable piece of apparatus, and will, we feel sure, be largely used by amateur photographers. We shall have much pleasure in showing the apparatus to anyone who may care to see it.

THE THORNTON-PICKARD TIMING SHUTTER.

This shutter, which has been sent us by the Thornton-Pickard Manufacturing Company, of St. Mary's Street, Manchester, appears to have many advantages. It combines the instantaneous

action of the "roller blind" with the "time" shutter. It does away with the necessity of a cap for lens. The makers claim that the shutter gives the most rapid "instantaneous" exposures, the speed of which can be regulated at will, or a prolonged "time" exposure; an even exposure over the whole field, and can for interiors be set at "full open," and left as long as desired. The vibration is stated to be practically *nil*; the shutters are well made and simple in construction. We should say that the makers are likely to have a very large call for them.

The Complete Photographer;

OR,

THE MODERN RECREATION OF CONTEMPLATIVE MEN.

By H. P. ROBINSON.

CHAPTER IV.

The Points of a Camera.

PHOTOGRAPHER.—You are punctual, my pupil.

PUPIL.—The best courtesy I can show you.

PHOTOGRAPHER.—We will now look at the apparatus. Mine is the accumulation of years, so we won't go over it all, but keep principally to what you will really require. Few photographers confine themselves to essentials. I never look at the accumulations of those who have practised for some years, or those who pride themselves on their collections of apparatus, without thinking of Diogenes' country fair.

PUPIL.—What was that?

PHOTOGRAPHER.—You ought to know. It is one of the quaint anecdotes told by Isaak Walton. This is what he says:—"Let me tell you, scholar, that Diogenes walked in a day, with his friend, to see a country fair; where he saw ribbons, and looking-glasses, and nut-crackers, and fiddles, and hobby-horses, and many other gimcracks; and having observed them and all the other finimbruns that make a complete country fair, he said to his friend, 'Lord! how many things are there in this world of which Diogenes hath no need.'" And truly there are some in photography who seem to toil chiefly to get together a choice collection of apparatus, and there are others, good workers too, who cannot resist the temptation to try everything new, and secure every novelty. With them the means is the end. Now what I want you to do is to make pictures, and go right straight to your goal. You are to be the tortoise, not the hare of photography.

PUPIL.—You expect too much, I am still young.

PHOTOGRAPHER.—A grievous but not unpleasant fault which time will eradicate. You will notice that I have three cameras, all identical except in size. The sizes are 15 by 12, 10 by 8, and half-plate. The first mentioned will be too much for you at present, but I think you may venture on the other two. The smaller one is large enough for general use, and the larger size is quite sufficient for making those wonderful exhibition pictures to which you very properly aspire. It seems to be decided by the general consent of amateurs that 10 by 8 is large enough for anything. I am not going to select a camera for you, the awful responsibility is too overwhelming. It is like recommending investments to a friend; if anything goes wrong, you get the blame; if it is a success, you hear no more about it. There are so many different patterns that I confess I am not free from bewilderment among them myself. I can, therefore, only talk generally on the subject. Before spending much money—and you can spend a small fortune over a camera or two now-a-days—you had better, by practice, learn to

know what you want. Buy one cheap second-hand, hire, or borrow.

PUPIL.—What! borrow a camera! I should think that would be as difficult as obtaining the loan of a fishing-rod. I never knew anybody willingly lend his rod.

PHOTOGRAPHER.—Ah! there is another parallel with fishing. If the thing were possible, I think I would prefer to lend my head than my camera or my rod. You possibly may meet a friend who was tired of photography, but those who give up are getting scarcer as photography gets more perfect. Well, you can look over mine, and we may get at the points of a camera as we would those of a horse.

PUPIL.—And set them forth as Shakespeare did—

"Round-hoof'd, short-jointed, fetlocks shag and long,
Broad breast, full eye, small head, and nostrils wide;"

and a lot more of it, with which I will not bother you at present.

PHOTOGRAPHER.—I know the passage; it shows prodigious veterinary knowledge. We will now consider the points of a camera adapted for work in the field as well as for all the home use that could be desired by an amateur. First of all to decide is whether you intend to carry your own apparatus. There is a great pleasure in being at liberty to go out when you like and where you like, free from the trammels imposed by the necessity for taking a man with you, which often involves preparation. I think that you ought to be able to carry any size up to a 10 by 8 and its belongings without much difficulty, and you should go boldly for that size for your more important pictures, for it takes the genius of a Sutcliffe or a Gale to make smaller pictures sufficiently good to force themselves to the front. Therefore the first point is that your camera is sufficiently portable for you to carry without distressing yourself. The second point is that it should be capable of being got ready for action in the shortest possible time. Subjects sometimes present themselves so suddenly and evanescently that you should be able to unlimber and fire without loss of time. This leads to the third point,—the construction should be simple and easily understood. There are cameras in the market so elaborately made, and so fearfully and wonderfully clever, that I have had to give up trying to learn all their tricks. Just as a serious study of chemistry is not necessary for a photographer, neither should it be imperative to pass an apprenticeship with a civil engineer in order to understand a bit of apparatus. As few screws should be used as can be helped, and none of them loose. The loss of a screw may cause the abandonment of an expedition. The arrangement for changing lenses should be extremely simple. Whenever the principle of the bayonet joint can be substituted for the screw it should be done. There should of course be a swing-back, and facility for taking upright or horizontal negatives. The focussing screen should be hinged, and should rack out far enough to admit of the use of a long-focus lens for taking near figures and portraits. Before we come to the dark-slides or plate-holders, there is just one thing to consider: what are you going to use—glass plates, films, celluloid, rolls, or any of the long *et cætera* of ingenious, past, present, and future inventions for getting rid of glass? It may help you to decide if I again remind you of our purpose, which is to arrive at picture making by photography in the most direct way, without experimenting to the right or to the left. The most recent inventions have their good qualities, but the glass plate is the most tried and certain, therefore we will adopt the glass plate. For plates you will want holders. Three, to take two plates each, will be enough and as many as you will care to carry. I prefer the solid form, with the slides made to draw quite out. It looks risky, but I never met with any difficulties.

I do not care for the old book-form of holders, it is needlessly complicated, takes more room on the table when open, and is more expensive than the solid form. In one of your holders have a carrier fitted to take either a quarter or half-plate. It sometimes happens that you want to try an exposure, as in copying and in taking interiors; a quarter-plate would answer the purpose and save a 10 by 8.

So you may note that a good camera for general use has three principal points—portability, simplicity, and facility for use. It must not be forgotten that ~~one~~ of these points must be gained at the expense of efficiency. For instance, it would be possible to make a camera so light and portable that rigidity would be sacrificed, or so simple that it would not work or enable you to do what you wanted. A camera without a swing-back would be very simple and also very useless. I could not get on without a swing-back, except in very small cameras. This would never do. The just medium must be maintained. I suppose it is of no use to protest against French polish. That detestable shiny finish has been at last abolished in our houses, or at least from all good furniture, just as stucco has been banished from the outsides of our dwellings. The taste of England is improving slowly, and the time may come when this in-artistic polish will no longer defile our scientific and artistic instruments or anything else. The "pride of the workshop" that makers still insist on putting into their work is perhaps not so objectionable as it used to be, but is still bad enough. Cabinet-making used to be thought of first, and the photographer's convenience afterwards, if at all. The backs of printing frames and dark-slides were made to fit so exactly that they would scarcely shut for the air they enclosed. The London maker refused to make them any other way, and the village carpenter had to take the pride out of them with a spokeshave. It was a great triumph when I got one of them to make a printing frame of pine instead of oak, and a camera of Honduras instead of heavy Spanish mahogany. I tell you these things that you may see there are at least some compensations to set against the vexation of having been born late.

PUPIL.—I pray you have me excused; it was not my fault.

PHOTOGRAPHER.—The camera stand should be light but firm. There are, I believe, more convenient methods of fixing the camera than the old screw arrangement, which is often a nuisance, but I have had no experience with them, and what I do not know I will not convey to you second-hand. With regard to lenses, there is no better all-round lens than those of the rapid rectilinear form. They are suitable for landscape, copying, and portraiture. There are others made for special purposes, including all widths of angle, from the very narrow—photographs taken with which look like bits cut out of a picture—to the very wide, which not only squint round the corners but turn molehills in the foreground into mountains.

PUPIL.—How is that?

PHOTOGRAPHER.—The narrow angle includes so little of the view that there is no room for the foreground. On the other hand, the wide includes so much that the ground almost up to the camera stand comes in and of course comes very large in proportion to the distance. Although you may have little use for it except at the sea-side, you should be provided with a shutter for quick exposures. Their variety is endless. Select one that gives moderate exposures, the very quick ones are useless for picture making.

PUPIL.—But what if I want to take jumping athletes, trotting horses, and birds on the wing?

PHOTOGRAPHER.—You may attend to that kind of trifling afterwards; it has nothing to do with picture making, which concerns itself only with what the eyes see. Yet if

you want to amuse yourself in the instantaneous direction you cannot do better than get a hand-camera. I am not much given to playing with toys, but I must confess that I have found myself deriving a considerable amount of pleasure from the use of one of these ingenious little instruments. Of other necessary appliances we will speak as we want them. To-morrow we will expose some plates.

(To be continued.)

Winter Work.—XX.

By T. C. HEPPWORTH, F.C.S.

HINTS ON ENLARGING.

(Continued from page 103.)

If the bromide paper process had not been introduced, it is doubtful whether the work of enlarging photographs would have come within the powers of the ordinary amateur, for all other processes by which magnified pictures can be obtained—if we except those within camera size—are either complex in their nature, or they entail apparatus of an expensive and cumbrous description. But the bromide process came to hand in the nick of time, and just when amateurs were being tempted to take up photography as a pastime by the ease and cleanliness of working which the gelatine plate inaugurated. The bromide paper process is easy to work, and in no part of it need the amateur fear any difficulty if he will only use ordinary precautions with regard to light access, exposure, and cleanliness in his manipulations. Under such conditions he will be able to produce from the smallest sized negatives pictures of which he need not be ashamed, and which will reveal beauties that were not suspected to lurk in the original.

The paper as now manufactured is so perfect that the amateur can start with the work with full confidence in the material with which he is about to deal. It was not so in the early days of bromide paper, for the makers had then much difficulty in finding a support for the emulsion which while possessing the necessary qualities as to toughness, etc., was free from deleterious matter which acted upon the delicate chemical coating. Hence it was then common for pictures taken by this method to present all kinds of blemishes. Sometimes a picture would develop rightly, and would afterwards become afflicted with an obstinate attack of measles without any discoverable cause. I fancy that many of the faults exhibited by the original material were traceable to the circumstance that a far larger proportion of gelatine was employed as a vehicle for the sensitive salt than was actually required, and certainly far more than is employed in modern bromide paper. The paper as soon as it was wetted became slippery and unpleasant to the touch, and the gelatine surface was very easily abraded. At the present time the gelatine is reduced to a minimum, and I fancy that little more is used than is necessary to bind the particles of silver bromide together, and to cause the emulsion to flow over the rollers during the coating operation.

To obtain a really satisfactory enlargement upon bromide paper requires care and some exercise of judgment. A thin and clear negative, of the kind which would not yield a very good print on albumenised paper, is just the sort to pick out for enlargement. Dense or very yellow negatives, which afford no difficulty in the ordinary printing frame, are, on the other hand, likely to yield hard black and white pictures when enlarged. Development can be brought about with either ferrous oxalate, hydroquinone, or the new agent eikonogen. Some say that the last named will gradually displace the other two, but I myself have obtained

such first-class results with the iron developer, that for the present I shall continue to use it in my own practice.

In using this ferrous oxalate developer, a common mistake is to employ too much of the iron salt. (I am assuming here that the amateur compounds his own developer, by mixing saturated solutions of potash oxalate and iron protosulphate together.) In developing a plate so as to produce a negative, the proportions generally recommended are four parts of oxalate to one of iron, with a liberal amount of soluble bromide. This will not do for developing enlargements on paper, except under unusual conditions. The proportion of iron to oxalate which I have found to work best is one of iron to eight of oxalate, the iron being added to the oxalate, and not *vice versa*. Some workers do not care to employ any soluble bromide, but I think that it is a wise precaution to add a mere trace to the mixed developer, for its presence tends to keep the whites pure. This comparatively weak developer will allow the operator to give a liberal exposure, and this is necessary to secure a good black tone in the finished picture. When the image is well developed—and the action must not be allowed to go too far, for the colour deepens in the fixing bath—the developer is poured off and the print is flooded, without previous washing, with water acidulated with acetic acid—strength, $\frac{1}{2}$ oz. to a pint and a-half of water. The paper picture must be next thoroughly washed, and finally fixed in the hypo bath—strength, $3\frac{1}{2}$ ounces to 1 pint of water. Allow the print to remain in the fixing bath for at least fifteen minutes, and take care, if two or three prints are being fixed at the same time in one dish, that they are constantly moved, so that one shall not prevent the salt attacking another upon which it rests. When fixation is complete, the paper appears translucent when held up to the light, but should any trace of cloudiness be apparent, it must go back in the bath until the paper becomes clear.

A word of caution is necessary here. If the paper print be left in the fixing bath for an extravagantly long period, the hypo will begin to attack the image itself, and the delicate details which form the most beautiful part of the picture will quickly disappear, never to return. This destructive action is quicker when a very small quantity of liquid is being used, and the surface of the paper in consequence gets exposed to the air while still in the bath. In former years it was frequently my lot to demonstrate in public the method of exposing and developing a bromide enlargement, and on one or two occasions while my attention happened to be absorbed upon other matters, a print which had been left too long in the hypo bath was spoilt in the manner indicated. It is possible that this accident may not occur with all makes of bromide paper, but I give a word of caution with reference to it, and am induced to do so because I have never yet seen in print the peculiarity referred to.

Many amateurs have told me that they have not tried to enlarge their pictures because they have no dishes suitable for the work, and the price of large ones is prohibitive to them. It is true that the larger sizes are expensive to buy, but it so happens that they can be made at home cheaply enough if the amateur can only do the work himself. The carpentry which the making of a dish involves is in truth so simple that it seems hardly necessary to employ a professional hand to do the work. Let me now give a few hints on the subject.

Dishes can be made in various ways, and some methods are far more simple than others. For instance, a good serviceable dish can be made of waterproof (Willesden) paper, the edges being turned up and the corners held together with strong letters clips. But this description of dish, if of large size, should stand upon a flat board, so that

its centre shall not sag and get out of shape. A really flat surface for the bottom of the dish is, in fact, for paper enlargements almost a necessity, for the wet paper will cling thereon, and the dish can be moved at any angle to coax the developer over the paper without fear of the latter falling off. Of course, dishes can be made of wood, and then covered with a waterproof coating. A really good dish can be made in this way, of pine, with a lining of mackintosh cloth. Or, if the carpentry be of a trustworthy character, the wood can be painted with some composition which will render it waterproof. The best compound for this purpose is gas tar, laid on sparingly with a brush while boiling hot. This is by no means a pleasant stuff to work with, and in case of danger from fire the work should be done out of doors. A dish so prepared will not be ready for some days, for gas tar has a tendency to remain sticky.

In the photographic year-books a waterproofing compound for dishes has been constantly published among the formulæ, consisting of a mixture of resin and beeswax. This I have tried, and found it difficult to apply and very brittle in use. It forms, moreover, a soap with any salt of soda, so that a dish so prepared and used for a fixing bath leads to mess and trouble. A far better mixture to use is asphaltum dissolved in naphtha, a dish so treated remaining for many years without alteration. For my part I prefer, above all other kinds of dishes, one with a flat glass bottom. They are not difficult to make, and I have several which have been in use for all kinds of purposes for many years. The sides of such a dish consist of $\frac{3}{4}$ inch pine, two inches in depth, with a $\frac{1}{4}$ inch groove cut along one face half an inch from the edge. This is for the reception of the bottom, which is made of thick glass, known in the trade as "32 ounce sheet." It is cemented into the groove with a mixture of white and red lead in oil, and after the sides are tacked together, the woodwork is waterproofed with any one of the mixtures just given.

(To be continued.)



Photographic Printing Processes. No. VIII.

BY ANDREW PRINGLE.

SINCE writing No. VII. of this series I have for my own memory refreshment, and for the benefit of my readers, carried out some experiments on the lines of my work of past years, and have further given as fair a trial as time and influenza would permit to a process presenting somewhat new features, and given in *Le Progrès Photographique*. I will first mention the processes of toning plain paper which on consulting my note-book and repeating old experiments I find to be satisfactory.

In the first place it may be said that an acetate toning solution such as given in a previous chapter will be found to yield very fair tones on plain salted paper, and the same precautions as were given under "Printing on Albumen Paper" will hold good here. If we require warm brown tones from "ready-sensitised" plain paper, we must neutralize the acid in the paper previous to toning. If our paper is home-made and alkaline, we must redden it before toning, by means, for instance, of common salt. But, as already surmised, when we use plain salted paper we probably do not wish for tones resembling those of albumen paper, but rather cold or blackish tones. The acetate bath may be made to produce tones decidedly cold, by starting to tone the prints in a violet state, and by prolonging the operation of toning considerably beyond the stage at

which we should stop it if we desired warm or brown tones. Much more effect may be produced in this direction than is generally known. The reader is requested to try for himself the effect of an acetate bath not too strong in gold and allowed to act for an unusually long time. But there are other toning solutions which will probably produce the desired cold or nearly black tones with more certainty and celerity and with less trouble; for instance, the following solution used by me some years ago, and suggested, I believe, by Mr. Schölzig:

Sodium tungstate	20 grs.
Sodium phosphate	20 "
Boiling water	3 ozs.

Dissolve the above, and add:

Gold terchloride	1 gr.
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When this is cool, add:

Water	5 ozs.
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If this bath acts too rapidly, either by reason of being too strong in gold for a new bath, or of being used before it is cold, the action will be only superficial and will be undone in the fixing bath. In such a case the solution must be either weakened with water or allowed to cool to a lower temperature. For rich dark tones, toning *must* be slow.

Slightly inferior to the above, but worth trial, is a bath such as is used for toning and fixing simultaneously certain gelatine-chloride papers. The following will serve as a sample, which I have tried with fair success:

Water	26 ozs.
Sodium hyposulphite	6 "
Ammonium sulphocyanide	1 oz.

Dissolve, filter, and add:

Water	6 ozs.
Gold terchloride	15 grs.
Ammonium chloride	30 "

It is almost essential, in order to prevent hurried and uneven toning with this bath, to put into the first part of the formula, before adding the gold solution, some scraps of printed plain salted paper, and to leave them there for some hours.

At one time I had great hopes of producing the tones I wished by the use of platinum chloride used acid in a solution either with plain water or with some organic salt. I cannot say I ever got any better tones with the platinum than with gold used as above described. If, however, any reader has a mind to try the platinum process, with the platonic salts, he should proceed to treat the commercial "tetrachloride of platinum" with sodium carbonate, to neutralise the free hydrochloric acid which would bleach the prints seriously. Having made the platinum solution alkaline, or, at least, neutral, he will then acidify it distinctly with nitric acid, and then it will be fit for use. A platinum solution for toning requires to be acid, and if an organic salt is to be used, I would suggest sodium phosphate. The following may be tried:

Sodium phosphate	30 grs.
Platinum chloride (treated as above)	1 to 2 grs.
Water	8 ozs.

The process of Mons. Gastine (*Le Progrès Photographique*, November, 1889) seemed to me to present some new features, and as its author claimed to produce black tones on plain paper by its use, I was led to give the process a trial as exhaustive as my time would allow. Very fine tones may be obtained by it, but not, so far as I can discover, black tones, nor anything like black tones. I

began by using the commercial platonic salt untreated, but the result was total failure. I then treated the platinum as above described, and got with ease tones that are not to be despised.

Sodium chloride	20 parts
Sodium bi-tartrate	10 "
Water at 50 degs. C.	300 "

When dissolved, stir in 5 parts of a 10 per cent. solution of platinum chloride; cool, then make up with water to 1,000 parts. Use at once. I find this solution keeps fairly well, and Mons. Gastine's instructions for strengthening the bath as it becomes weakened are: Add two or three parts of the platinum solution, and one or two parts of the bi-tartrate, in fifty parts of water. Though I do not put this process forward as excellent, still it is well worth trial by those curious in toning matters.

The great trouble with plain paper printing is the fact that the printing has to be carried to a great depth, and, no matter how deeply we print our proofs, there is always a great loss of the finer gradations of the image represented by the negative. In fact, the same objection may be taken to all the processes of printing involving free silver nitrate and toning; my own idea is that while so-called "silver printing" has its uses and its beauties, it has always, especially with the plain paper process, the serious defect of loss after printing. In this respect the platinotype and the bromide paper processes are far superior to albumenised and plain paper processes.

If I were intending to adopt plain-paper printing as my standard process, I should probably study the process lately worked out and promulgated by Mr. Lyonel Clark. He seems to get good tones and results generally satisfactory and fairly under command by a pleasing and simple series of operations. Mr. Blanchard also showed some good specimens of work produced by his process, but as he kept his chemicals and their proportions secret, I cannot offer any opinion on the process. I tried it carefully, but found it very expensive, even more so than would appear from the price list, for with me the solutions did not go nearly so far as the directions gave me to expect. The results were pretty good, much the same as will be obtained by the gold or platinum toning solutions suggested in this chapter.

In course of my experiments of some years ago, I got many curious results on plain paper by very lightly printing, in some cases not allowing the image to be more than suggested, and then developing with various acid developers, as iron, pyrogallol, etc. I even intensified developed images, and toned with acid platinum after development, but the results were never under command as to colour, and at best were only chemical curiosities. At the same time there is a fine field open for experiment in this line, for the developed image has far more gradation and far less loss of detail than the toned image on the same paper.

(To be continued.)

THE "PHOTOGRAPHIC QUARTERLY."—A correspondent writes, "Those who take an interest in artistic photography should be grateful to you for your enterprise in producing the *QUARTERLY*. Of the many excellent reproductions you have given us, I think 'Harmony' one of the finest. To look upon it is a source of both pleasure and profit."

"AMATEUR PHOTOGRAPHER" PRIZE PICTURES.—In connection with the *AMATEUR PHOTOGRAPHER*, Messrs. Hazell and Co. have issued, in a handsome wrapper, the first of a series of reproductions of "Prize Pictures," comprising five photographs by Mr. Alexander Keighley, with an essay on "Photography as a Recreation." They show not merely skill in the mysteries of focus and other details of technique, but a good eye for composition and expression.—*Daily News*.

Mounting.

By T. W. BACON.

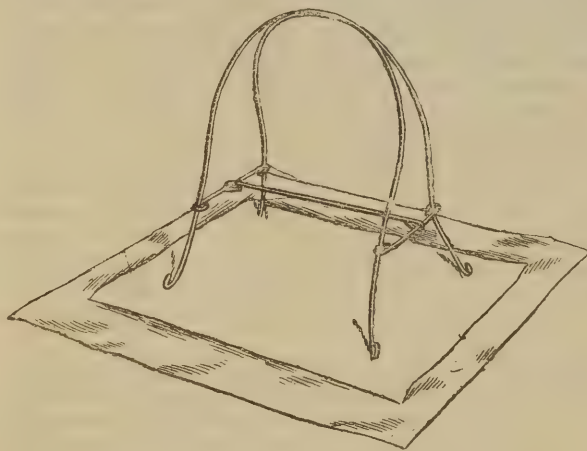
PERHAPS in no branch of photography does the photographic apparatus dealer cater for his customers more meagrely than in this. The only requisites that he supplies satisfactorily are mounts and albums. The object of this paper is to draw attention to the defects in what he does supply, and to describe one or two things which he does not supply.

Mountant.—The necessary qualifications for a good mountant are the following:—(1) It must be of suitable consistency for being brushed on the print, must not be thin and runny, nor thick and treacley; it must not be lumpy nor contain bits of foreign matter. (2) It must not require the application of heat before or during use. (3) It must not cockle the mount, whether it be of cardboard or only paper, nor must it necessitate the application of pressure to keep the print flat after being mounted. (4) It must not in any degree affect the glaze on prints which have been dried on ferrotype plate, vulcanite, or glass, nor must it require the use of any backing for the prints. (5) It must keep well. (6) It must not injure the print. (7) It must be soluble in cold water, so as to be easily washed off the fingers, brushes, etc. Any mountant which fulfils these conditions may be used. The writer is only acquainted with one which does so, namely, that known as "Excelsior mounting solution." The first thing to be done on receiving a bottle of mountant is to carefully extract the cork, particular care being taken not to chip or break the cork so that pieces fall inside the bottle. Perhaps the cleanest way to do this is by means of a strong corkscrew. Next, the neck inside the bottle must be examined, and all pieces of adherent cork removed with a knife. If any should fall into the solution they must be picked out, or else they will afterwards appear as lumps between the print and the mount. Obviously, a corked bottle is useless for keeping the mountant in, as the above tiresome business would have to be gone through every time the bottle is opened for use, consequently it is preferable to turn the solution at once into a stoppered bottle. The best form for the purpose is that known as a "glass specimen jar," and the most convenient size made is $6\frac{1}{2}$ ins. high by $3\frac{3}{4}$ ins. in diameter. It is the same width at the stopper as at the bottom, and has the advantage that the solution is more accessible than when contained in a bottle with a shoulder. In order to prevent the stopper being stuck in the jar after use by the wipings off the brush, two pieces of thin wire, No. 36 or No. 38 B.W.G., should be passed at right angles to each other under the stopper, brought out between it and the neck of the jar, and their four ends tied round the handle, so that the stopper, when in its place, is kept away from the neck at four equidistant points in its circumference to the extent of the thickness of the wire. Should the stopper at any time be found to be fixed, it may easily be removed by warming the neck all round over a gas burner or spirit lamp. Care, however, must be taken not to re-insert it till the neck is cool again, otherwise it will stick in very tight on cooling.

Brush.—The reader is no doubt familiar with a small piece of stick about the size of a pencil, with a few bristles loosely fastened on to one end, which photographic dealers send out with each bottle of mountant, and which is supposed to be used in applying the mountant to the back of the print. This wretched thing may be with advantage consigned to the flames or sent to the nursery. The following are the necessary qualifications for a good mounting brush: it should be about an inch wide and an inch and a half long in the bristle, preferably flat in shape; the bristles should be well fastened in and not liable to come out with use; it

should have a good thick handle, so that the fingers do not become cramped from holding it. The most suitable form of brush for the purpose is that sold by dealers in fine art materials for oil painting, and known as a "hog-hair" brush. The largest, No. 12, flat shape, is the most useful size. After use, the brush should always be washed in cold water, shaken, and put aside to dry.

Print Holder.—As some force has to be used in applying the mountant to the print, it is necessary that the latter should be held down by some means in order to prevent it from slipping about and getting the front sticky. The accompanying illustration will show a simple and convenient holder, which consists of four legs and a handle made out of hard brass wire, No. 14 B.W.G. The legs are arranged to



fit on the print about one inch diagonally from each of its corners, and their lower ends are turned up so as to prevent the sharp points from injuring it. The stays between the legs are for the purpose of securing rigidity.

Mounting Supports.—After the mountant has been applied to the print, the paper or other support underneath will, of course, have become sticky from the brush going over the edge of the print, therefore the same support cannot be used again till it is dry, so it will be found necessary to have a supply of paper supports ready cut to a size allowing a space of about $1\frac{1}{2}$ in. all round the print. The commonest quality of paper will serve; that of which white paper bags are made has the advantage of being thin, and a few hundred sheets of this will take up very little room; each sheet may be used two or three times on each side, being allowed to dry between each time of using, and then thrown away.

Albums and Mounts.—These, especially the latter, are a matter of taste. As regards albums, prints no doubt are shown off best when mounted on cardboard leaves, a whole page being sacrificed to each print; but as albums made in this way as a rule only contain about thirty leaves, this method of storing photographs will be found to be a very bulky one; it is therefore preferable to reserve such books for first-class pictures only, and to mount the rest in larger books containing some six dozen paper leaves, each page being of sufficient size to hold two prints. In mounting prints on cards, allowing only a narrow margin round, the correct position can easily be judged by eye, but in the case of albums and cards with a wide margin, the following method is convenient: A piece of stout paper or cardboard is cut to the same size as the card or page of the album, two points are found by measurement on this paper where the two upper corners of a print of usual size should lie when in its correct position, and at these points, or $\frac{1}{8}$ in. nearer the middle of the page, two small holes are made through

the paper. Now before proceeding to mount a print, the paper is laid on the page of the album so that the edges of the former coincide with those of the latter all round; while in this position the point of a pin or pencil is pressed gently through each hole in succession, then on the paper being removed two marks will be found on the page exactly where the corners of the print should come; if the $\frac{1}{8}$ in. has been allowed, the corners of the print, when in its place, will just hide these marks. When a print has been considerably trimmed down, the correct position must be judged by eye from the two marks, and these obliterated as well as possible afterwards.

Various.—It is needless to say that mounting should always be conducted in a good light. If the prints and albums are large ones, it will be found convenient for the mounter to seat himself in an angle between two tables, with the album on one and the rest of the mounting appliances on the other, so that he has to turn in his chair through an angle of ninety degrees, in taking the print from the mounting support to the album; this avoids his stretching a long distance, as he would have to do when using only one table, and also gives him a better control over his work. The mounting support should on no account be placed on a soft substance, such as a table-cloth, or else the legs of the print-holder will make dents in the print; a smooth table or a well planed board of hard wood will form the best rest for it. The only other requirements are a couple of handkerchiefs.

Rehearsal.—Having provided himself with all the above mentioned apparatus, the mounter may proceed to work as follows: Place the print face downwards on the mounting support, so that there is an even margin of the latter showing all round; place the print-holder in its proper position, and hold it there firmly with the left hand; take the brush in the right hand, dip it in the mountant, and after wiping off the surplus on the edge of the jar, apply it to the back of the print; after dipping, remember always to do a few strokes first somewhere in the middle of the print; when doing the edges, draw the brush in a direction at right angles to them away from the centre of the print, *never* backwards and forwards across them, or the mountant will inevitably get on the face of the print; use as little mountant as possible, only sufficient to give the print a shiny appearance; if any bits of foreign matter, hairs, etc., get on the print, carefully pick these off with the edge of a knife; when the print has been thoroughly brushed all over, raise the print-holder and print, the latter will be found to stick of its own accord to the ends of the four legs, and quickly invert them; now take off the print with the right hand and put down the holder on its side in such a position that the sticky ends cannot pick up any dirt; lay the print on the mount, making the two upper corners coincide with the marks previously made, and leaving the lower part of the print for the moment lying somewhat loosely; take No. 1 handkerchief and wipe off any mountant that has got on the fingers; then with No. 2 handkerchief proceed to smooth down the print; fix the centre first, then press the handkerchief from it to each end in turn; do not smooth the whole length of the print at one stroke and in one direction, as this tends to create wrinkles; lastly, see that the edges and corners are well pressed down, and if any of the mountant has oozed out from under them, wipe it up with the handkerchief, or it may afterwards cause the pages of the album to stick together.

For the convenience of the reader it may, perhaps, be well to state where the necessities mentioned in this paper may be procured, and their prices. The Excelsior mounting solution from Houghton and Son, 89, High Holborn, W.C., 1s. per bottle. The brush, No. 12 hogshair,

from Muller and Co., 439, Strand, at 10d. The glass specimen jar from Townson and Mercer, 89, Bishopsgate Street, E.C., at 2s. The mounting supports from any stationer, who will cut for a few shillings enough to last for years. The print-holder may easily be made with some wire, a pair of pliers, and a soldering-iron; possibly No. 10 or No. 12 B.W.G. wire would make a more rigid holder than No. 14, used by the writer, and would not need to be turned up at the ends of the legs, if the points were carefully rounded off. For the benefit of those who have no tools, perhaps the enterprising Mr. Tylar might be induced to add this simple contrivance to his list of novelties.

Our Contemporaries at Home and Abroad.

L'Amateur Photographe (Paris) continues the articles on "The Products and Operations used in Photography," and "The Application of Photography to Industrial Arts." There are also articles on "Eikonogen" and "Practical Manipulations."

The *British Journal of Photography*, in an article on "Pictorial *versus* Microscopic Definition in large Direct Portraits," says, "It may require a little courage on the part of a professional to produce pictures which are even a little unsharp, and which may, in a photographic sense, be considered imperfect; but it is quite possible that the public for whom they work would really appreciate them. Anyhow, it might be worth the trial by those who are taking large portraits, and do not, at present, find them a commercial success." Articles: "The Explosion of an Oxygen Cylinder," "Damp, its Effects and their Prevention," "Light and Exposure Tables," "The New Benzoline Limelight," "Optical Illusions and Sights at Barnum's," "Some Phases of Amateurism," "The New Rollable Transparent Film," etc.

The *Photographic News*, amongst its notes, says, "The tercentenary of the invention of the compound microscope, which is to be celebrated this year at Antwerp, reminds us of the respectable age to which this instrument has attained. Of late years, microscopical appliances have been vastly improved, and the application of photography has given to microscopical study fresh interest and fresh power. Photographic attachments will make a large show at the exhibition proposed to be held, and among the subjects to be discussed at the inevitable conference will be photo-micrography." Articles: "Focussing Appliances," "Ashanarsius Kircher," "Photography in France," "Solubility of Glass Bottles," "Some further Application of the Ramsden Eyepiece to Photography," etc. It also contains a reproduction of the photograph by Colonel W. Noverre, of "Penzance Harbour."

The *Photographic Review* has, notwithstanding its self-announced decease, again made its appearance in the field, and we must congratulate it upon its improved form. It contains articles on "Amateur *v.* Professional," "Detective and Hand Cameras, and Work for the Same," "Art or Science," "General Remarks on Developers," etc.

The *Photographic Times* (New York) for January 31st contains an engraving of the accepted design for the Daguerre memorial. "It shows Daguerre crowned by Fame with the laurel which reaches around the globe; appropriately emblematic of the world-wide benefit which photography has been to mankind. The portrait of Daguerre is from an original daguerreotype furnished Mr. Hartley by Mr. Cramer. The monument, when completed, will stand eleven feet high. The pedestal and the globe will be of granite; the head of Daguerre, in bronze." In the February 7th number there are articles on "Eikonogen," "The Dangers of Flashlight Compounds," "How to Recover Metallic Platinum from Damaged Paper," "Old Developers and Waste," etc.

Photography, in an article on "The Separation Question," says, "One aim of an exhibition is doubtless to encourage artistic work, and individual efforts to produce pictures that shall be the best shown—in a word, the spirit of healthy artistic competition. But how does the separation movement aid this? It tends the other way, because, instead of having the finest professional work to excel, the competition is narrowed down to amateur efforts,

and a picture of less merit will suffice." Articles: "Some Notes on Exhibition Matters," "Development, Quick or Slow," "The Royton Exhibition," etc.

The *Scientific American* (New York) says, "Very pretty effects may be produced by printing on ordinary albumen paper, sensitised with the following solution: citrate of iron and ammonia, $3\frac{1}{2}$ drms., dissolved in water 2 ozs.; red prussiate of potash $2\frac{1}{2}$ drms., dissolved in 2 ozs. of water. Mix equal parts just before using, and float the paper on it for half a minute or so, and hang by one corner in the dark-room to dry. The prints can be mounted and burnished."

St. Louis and Canadian Photographer (St. Louis), in an article on "Why do we Retouch our Negatives?" says, "Retouching! Although the word is a misnomer it will probably abide with us to the end, and is much more harmless in its etymology than its practice. If one was asked to define it, he could hardly get nearer than by saying that it was something almost universally employed by photographers to impair and disfigure the image obtained in the camera." Articles: "Ordinary v. Orthochromatic Plates;" "A Novel Means of Remedying Certain Defects in Portraits;" "Pyrocatechin as a Developer;" "What shall we do?" "Composition of Pictures;" "Re-development," etc.

Wilson's Photographic Magazine (New York), in the article dealing with the frontispiece, "The Schwarzwaldlerin," says, "When the picture maker begins to see things in nature which the commonplace and unobserving do not notice, and to catch with his camera what he alone sees, then his productions increase in value. Hidden beauty is found, and its interpretations are presented by him through his pictures; then he astonishes his admirers by the revelation of unknown truths, and translates for them a language whose charms have been forbidden to them. And then he is looked upon as possessing 'poetic feeling.' As he goes on he becomes better and better enabled to bring forth the spirit of nature." Articles: "Amateur Photography;" "A New Photo-Lithographic Transfer Paper;" "Yellow Colouration of Negatives and the Remedy;" "Enlarging Processes," etc.

"Thursday Evenings" at the Camera Club.

BY ONE OF OUR STAFF.

THE meeting on the 13th inst. was devoted to the consideration of a paper by Mr. Graham Balfour, giving his views on the "Ethics of Pure Landscape," and it was a masterly exposition, couched in language worthy of the subject. The chair was occupied by the Rev. A. B. Whatton, and the attendance was a fairly good one, though it must be admitted that it need not have been surprising had there been a larger number of members present.

The reader, who, it will be remembered, about twelve months ago read another paper before the Club, started with the assertion there was a great field for photography in the direction of pure landscape, that is, landscape without figures, and he then devoted himself to the endeavour to prove that figures were in no way essential to the beauty of a landscape. It seemed plain to him, he said, that objects of human use fully compensated for the absence of their owners, though they must be instructive to be worthy of reproduction. The sentiment of a desolate scene was best shown by banishing all signs of human presence, while, on the other hand, the Great Sahara was best shown when given with a solitary human figure. The fact was that figures were often superfluous and discordant with the rest of the picture, and in such cases their omission was fully justified. It had been urged that figures were often put in the wrong place, and had, therefore, better be left out, and that photographers, being seldom artists, had better give up trying for the best results, as they would invariably fail. But nobody ought to abate one jot of the highest ideal he could set up, on the ground that it was very difficult to reach. If all the pictures produced hitherto were unnatural, the best thing they could do was to go on trying to obtain the best conceivable result. After dealing with the fact that the old masters were not landscape painters, he said that the enjoyment of scenery for its own sake was a purely modern growth, which our forefathers would not have understood. It was not until after the time of Pope that that love began to show itself. They had, therefore, this fact, that within the last hundred years there had grown up so universal a recognition of the external world

that no sensible man would venture to deny the domination of that sentiment. There was the sense of beauty which must be satisfied by all our pictures, and he thought it was sufficient to gratify that alone, and that was art for art's sake. In that view a picture was a work of art, and nothing more. It was none of the "ologies" and none of the "isms;" the results of those were illustrations in the first place, and only secondarily pictures. Surely art might exist for its own sake. As Browning said:

"If you get pure beauty and naught else,
You get about the best thing God invents."

Art devoted itself to satisfying our sense of beauty, interfering with no existing interest, looking neither to the right hand nor to the left in rivalry; and the best way to succeed in it was to do one thing at a time. If art were to succeed it must have its specialists, as well as other things. We did not get the full beauty of nature if we occupied our minds with other things. This view of art was like music, criticism of it was hopeless. Music and painting invented suggestions and vague yearnings which could not be set forth in words, but such art was manifestly only for the few. Many of them could only hope to get into the neighbourhood, but their efforts were likely to improve their taste. From those considerations he had come to the conclusion that if they got pure beauty and naught else they got as much as the camera could capture and more. He wished he could tell them how the sense of beauty was to be acquired; he believed it was by studying the best masters and nature herself in the true country. It was the eye that required cultivation rather than the mind. Their own instincts must lead them on. If they had no sense of symmetry, all the diagrams of Euclid would not help them. If, however, they despaired of pure art there was plenty of other honourable and good work to be done, but it must not be called pure art.

Mr. Humphery disagreed with the seeking of simple beauty to find pure art. That was one of the greatest curses of the present day to the photographer who looked simply for the pretty little landscape and nothing else, and be thereby degraded his art to one level and never rose above it. His opinion was that the highest study of mankind was man. Nature herself was life, and if they pictured nature without life they did not picture her as she was.

Mr. Greene took the other side of the question, and expressed his pleasure in the fact that someone had taken up the claims of pure landscape. He understood Mr. Humphery that pure beauty meant inane prettiness. That was not his view; he felt that the grandeur of the mountains and of the torrent were both beautiful and grand without mere prettiness.

Mr. Davison took the *via media*, and thought that the last speakers were of opinion that beauty must be sought in the grand, in the stormy wave, and so on. They might, however, have as much beauty in a simple landscape, a bit of meadow, dyke, and tree, with the sun across it or not, as in the grand scenery which had been referred to. Figures in action, or the attempt to represent them in action by time exposures, had failed. Where an instantaneous picture was taken, that unnaturalness, however, was often overcome, especially with a long-focus lens. They would all agree with Mr. Balfour when he said that art could have no didactic reason whatever—it then became more or less a science.

The subject on Thursday, February 27th, is "Photography as Applied to Medicine," when a paper will be read by Dr. C. S. Patterson. Meeting at 8 p.m.

ENGLAND'S CELLULOID FILMS.—We have received from Mr. J. D. England, of Charles Street, Notting Hill, sample celluloid films which, with the assistance of a piece of stiff cardboard, are easily adjusted to the ordinary dark slide. They are very carefully coated with the same emulsion as England's plates, are as easily developed, and of ordinary rapidity. From the samples we have seen, and trials made, we have no hesitation in commending them to amateur photographers.

MR. MARTIN, of Bream's Buildings, has sent us a specimen of his Autocrat Magnesium Magazine, which represents a convenient method of storing and measuring out a given quantity of the metallic powder for flash-light purposes. The apparatus is simply a reproduction of the old powder flask—with spring opening slide—which used to be carried by sportsmen before the days of breech-loading cartridges. Its application to the purposes of photography is a happy thought, and one which will, on account of its convenience, be adopted by many.

Societies' Meetings.

BIRKENHEAD PHOT: ASSOC.—The usual monthly meeting was held in the Association Rooms, Price-street, on the 13th inst.; the President, P. H. Phillips, Esq., occupying the chair. The "Enlargements" in the *AMATEUR PHOTOGRAPHER* competition were displayed round the rooms for the inspection of the members. Mr. H. J. L. Rawlins, who was expected to exhibit and describe his apparatus for the timing of photographic shutters, was unfortunately prevented from attending, but in the person of Mr. W. B. Beaton (Messrs. G. J. Atkinson and Son) he had a very able representative. After reading Mr. Rawlins' manuscript, Mr. Beaton dissected the apparatus, and showed the working of the different portions of the mechanism. In proposing a hearty vote of thanks to Mr. Rawlins and Mr. Beaton, Mr. Carruthers briefly described another "timing apparatus" he had had the pleasure of inspecting, in which the known vibrations of a tuning fork formed a basis for the calculation. A discussion on "Development" then followed, opened by Mr. H. Wilkinson, and sustained by Messrs. Lange, Carruthers, Forrest, and others; the President (Mr. Phillips) exhibited six negatives of the same subject, which, having received the same treatment exactly as regards exposure, had been developed by six gentlemen in their own particular ways and pet developers. It being generally remarked that there was little to choose between them, confirmed the President's statement that with a properly exposed plate one developer was as good as another. An exhibition of slides by the members followed, Messrs. H. H. Williams and F. Hope-Jones officiating at the lantern. During the evening attention was called to the exhibition of the *Photography* prize slides, in conjunction with the Liverpool Association, in the Exchange Sale-room, Liverpool, on the 18th February; and to the concert being arranged by W. H. Hunt, Esq., Mus. Doc., for the 28th February in the Cloughton Music Hall.

BIRMINGHAM PHOT: SOC.—The ordinary meeting was held on the 13th inst., W. Jerome Harrison, F.G.S. (Vice-President), in the chair. The Birkenhead Photographic Survey slides were advertised to be shown, but as these were not ready a very good substitute was provided through the kindness of the following gentlemen and societies, viz.: Mr. C. W. Hastings, Messrs. H. Sturmer and Drew (of the Coventry Society), the Camera Club (through Mr. Davison), the Leicester Society (through Mr. Bankart), and the Wolverhampton Society (through Mr. Evans), who each sent a number of slides for exhibition. Those from the Camera Club were the new set of animal studies, and were sent out with very appropriate readings of particulars. The new club lantern was on view, and at the close some pictures were passed through by Mr. E. H. Jaques. It was announced that Prof. Muybridge would give his exhibition at the Birmingham Town Hall during March.

BRIGHTON PHOT: SOC.—The first annual meeting was held on February 11th, the President (Dr. Rean) in the chair. The Secretary read the Committee's report, which stated that the society now numbered sixty members. It also referred to the papers read during the year, which have been of a high class, and evoked considerable discussion. The lantern evenings have also been a feature, and have proved most enjoyable. During the summer months excursions have taken place to the most picturesque spots in the vicinity; these have been thoroughly appreciated. Two interesting competitions have also taken place, one for the best set of lantern slides being keenly contested. The officers for the current year were then elected as follows:—President, W. K. Rean; Vice-President, W. Page; Treasurer, J. P. Slingsby Roberts; Committee, Messrs. Bedford; Caus, Hardcastle, Graham, Perren, Mitchell, Tate, Webling, and Wicks. Hon. Secretary, A. H. C. Corder (42, Montpelier Road, Brighton). The prints sent in for competition were on view during the evening; the judges, Messrs. Allen, Fry, Hunter, Graham, and Rean, awarding the bronze medal to Mr. W. Durdell; the silver was withheld, as, in the opinion of the judges, there were no exhibits of sufficient merit to justify their awarding it.

BRISTOL CAMERA SOCIETY.—On Thursday, the 13th inst., an ordinary meeting was held at the University College, Professor Ryan, M.A., in the chair. The President of the Society (Mr. Harvey Barton) gave an instructive paper on "Lantern Slide Making," and afterwards exhibited, by means of his lantern, a large and varied selection of slides. At the close of the exhibition several questions were put to Mr. Barton on various matters con-

nected with the subject, and were replied to. At the next meeting, on the 27th inst., the Secretary (Mr. T. Taylor Genge, L.D.S.) will give a demonstration on the "Cold Bath Platinotype Process."

BRIXTON AND CLAPHAM CAMERA CLUB.—The last meeting of this club was held on Friday, the 14th inst., and was devoted to the reading of papers from the journals and to discussion of the same. A member showed one of Watson's "Acme" cameras, which was examined with much interest. The next meeting (28th) will be a lantern night, when a special set of competition slides lent by the editor of *Photography* will be shown.

DUNDEE AM: PHOT: ASSOC.—The annual meeting was held last week in the Forfar and Kincardine Hall, when there was a large attendance. Mr. J. Rogers, President, occupied the chair, and spoke of the interest to be found in the study of photography. There was a very enjoyable concert. The society, which is composed mainly of working men, is making considerable progress.

DEWSBURY AM: PHOT: SOC.—On February 6th an exhibition of prize lantern slides was held in the Industrial Hall, the Mayor, Alderman Geo. Clay, presiding. Mr. C. Naylor operated the lantern, and the President, Mr. T. G. Beaumont, announced the subjects shown on the screen. The pictures which were most appreciated were the cloud, genre portraiture, scientific, and animals. The slides, taken on the whole, were considered first-class, and equal to anything ever shown in the town before. After the prize set had been put through the lantern, a number of slides made by members were shown. The monthly meeting was held on February 13th, Mr. T. G. Beaumont in the chair. After passing minutes of previous meeting, the Secretary read letters from the Crystal Palace Company *re* exhibition, and P. H. Emerson, offering a copy of his work, "Pictures of East Anglian Life." The Society decided to accept the copy. It was resolved to hold a complimentary social evening on Tuesday, March 25th, the entertainment to consist of music, exhibition, photographic apparatus, stereoscopes and transparencies, lantern slides, etc. A number of stereoscopes were placed on the table, and a goodly number of transparencies were exhibited by several members, and were greatly admired.

FORMBY CAMERA CLUB.—On Monday evening, the 10th Feb., a conversazione in connection with the Formby Camera Club was held in the Victoria Hall, Freshfield, when there was a good attendance of ladies and gentlemen interested in photography. The principal feature of the evening's entertainment was the opportunity afforded to the members and friends of inspecting a number of enlargements lent for the occasion by the Editors of the *AMATEUR PHOTOGRAPHER*. Most of the exhibits were very fine specimens of amateur work, and were very much admired. In addition to these, the President (R. E. Maclean, Esq.) exhibited some enlargements of local views which were neatly finished, and very creditable pictures in every respect. The Rev. W. F. Warburton, of Altcar, presided at the lantern (limelight). A number of capital slides, lent by Mr. Swinden, of the Liverpool Photographic Society, were first thrown on the screen, additional interest being centred in them by the different subjects being connected in a very ingenious manner by means of a letter supposed to be written to a friend detailing the events that happened whilst on a holiday visit to Liverpool and neighbourhood, during the celebrations of Jubilee week. About forty miscellaneous slides of exceptional merit, kindly lent by Mr. A. W. Beer, of the Liverpool Club, were next shown, and gave great satisfaction. These were followed by some local scenes in Formby and Freshfield. A set of microscopical slides were exhibited by the Rev. W. F. Warburton. At the close of the proceedings the President proposed that a hearty vote of thanks be accorded to the Editors of the *AMATEUR PHOTOGRAPHER* for the Enlargements, and to Messrs. Swinden, Beer, and Warburton for the loan of slides.

HACKNEY PHOT: SOC.—On Thursday last Mr. G. H. Slight read a very interesting paper on "Past Photography," Dr. Gerard Smith presiding. The lecturer, a veteran, gave his personal recollections, mentioning how he once paid sixpence to see a daguerreotype, and thought it a most wonderful thing. He gave a short history of the discovery, tracing it through Niepce, Daguerre, and Mungo Pontin's time up to the present. He preferred the wet-plate process, notwithstanding its dirtiness. Dr. Gerard Smith moved a vote of thanks. He preferred the old process, which evidently still remained on the minds of some people who advertised "results like wet plates." There was no amateur then who kept changing his plates and formula every day. He said the grain too of the wet plates was close, which

in the present dry plates was missing, as, when enlarging, the dry plates had all their faults enlarged too. The Secretary announced an exhibition of apparatus on the 27th. He said he thought members were always glad to hear of their fellow members' success, and said Mr. Hubert had secured the Royton silver medal for his "Happiest Land." Mr. Hart showed the flash-light group he had taken at the preceding meeting. Mr. Dean showed micro-enlargements. The Secretary said he had been trying pyrocathechin, but had found no advantages. It was far too slow to be of any use, and testing it for non-actinic qualities had obtained fog with Iso plates and yellow light. Using Dr. Arnold's formula, as advised, diluted, in one hour had obtained no result. Dr. Birtacres was nominated as a member.

HEREFORDSHIRE PHOT: SOC:—A meeting of this society was held at the Mansion House on Thursday evening. Mr. John Parker, the Hon. Sec., took the chair at the urgent request of those present. Mr. Parker explained the construction of the Kodak camera, an American invention, a specimen of which he exhibited and described in detail. The instrument, he said, was a very good one, and it was being still further improved upon. The Chairman next moved that an album be purchased out of the society's funds for presentation to Hereford Infirmary, each member to be invited to contribute prints thereto. Mr. Clarke seconded, and several of the members expressed approval of the proposal, and it was agreed to. Mr. Payton Levason suggested that some time in the course of the year the society should hold an exhibition, make a small charge for admission, and devote the proceeds to some charitable object. Each member should send a certain number of prints, and the society give a prize for the best group. The subject was discussed, and eventually adjourned for consideration at the next meeting. The Chairman said he had received a letter from the Shropshire Camera Club inviting this society to meet them in an outing in the summer at Ludlow, Wenlock, or other place that might be fixed upon by this society. There was a similar invitation from the Gloucestershire Photographic Society. Both matters were postponed till the next meeting.

HOLBORN CAMERA CLUB:—The last meeting was held on Friday the 14th inst., the subject for the evening being Mr. Traill Taylor on "Lenses." A large number of members assembled at the club rooms to hear him, but owing to the annual general meeting of the P. B. A. (of which body Mr. Taylor is Chairman) falling on the same evening he was (greatly to the regret of the members of the Holborn Camera Club) unable to be present. However, Mr. F. W. Edwards, of Dulwich, who was luckily in the room, stepped into the breach and delivered a most instructive and interesting discourse on the subject of lenses, their uses and abuses. We are sure all those who were present had considerably increased their store of information on the subject at the conclusion of Mr. Edwards' remarks. After a vote of thanks to Mr. Edwards for his kindness, Messrs. Miller and Lupton were proposed as members of the club. On Friday next, the 21st, Mr. E. Clifton will deliver a lecture on carbon printing. Visitors (ladies especially) will be very welcome. For the information of gentlemen contemplating joining this club, we may say that subscriptions for the coming year will not fall due till March 30th. After a vote of thanks to the Chairman (Mr. Lowe), the meeting was brought to a conclusion.

IPSWICH PHOT: SOC:—The usual monthly meeting of this Society was held on the 12th inst., in the Unitarian Schoolroom, Mr. W. Vick (in the absence of the President) presiding. There was a large attendance of members, the occasion being rendered additionally interesting by the declaration of the result of the lantern-slide competition. Fourteen sets had been sent in by members, and these had been submitted to the Rev. E. Ledger, of Barham, who officiated as judge. His decision awarded the first prize, of a silver medal, to Mr. R. Cash, and the second, a bronze medal, to Mr. Evan Edwards. After the announcement of the result of the competition, the slides were exhibited by the aid of a lantern. A marked improvement in the work of the members was to be noticed, many of the slides being really of first-class merit. Mr. E. Pringle (the Secretary) superintended the lantern, which had been kindly lent for the occasion by Mr. W. H. Booth. A vote of thanks to the Chairman concluded the meeting.

LANCASTER PHOT: SOC:—A meeting was held on the 11th inst. Dr. Jumeaux gave an interesting demonstration on "Eikonogen as a Developing Agent," and using for the purpose

his own single solution and two solution developers. Negatives (both instantaneous and time exposure) were developed, as also were opals and bromide prints, all turning out exceedingly well. The members expressed themselves perfectly satisfied and much pleased with the results obtained. It was proved to work more easily and energetically than other developers, besides being under better control. Dr. Jumeaux received the unanimous thanks of the members present for his demonstration. The next meeting will be held on Tuesday, March 11th, when fifty lantern slides, lent by the Editors of the AMATEUR PHOTOGRAPHER, will be exhibited.

LEICESTER AND LEICESTERSHIRE PHOT: SOC:—A regular meeting of the above Society was held in the Mayor's Parlour, Old Town Hall, on the 12th inst., Mr. J. T. Cook, Vice-President, in the chair. There was a good attendance of members. The minutes of the last regular meeting, held January 8th, were read and confirmed; the ballot was taken for one member, who was unanimously elected, and one proposed and seconded for ballot at next meeting. It was resolved to apply for the loan of the prints offered by the AMATEUR PHOTOGRAPHER. The exhibition of lantern slides for competition in class A. was then proceeded with, Mr. F. Pierpoint manipulating the lantern. Eight members sent in six slides each, which after being passed through the lantern were voted on by ballot by the members present, with the result that the first prize silver medal was awarded to Mr. Porritt, and the bronze medal for second prize to Mr. W. Joliffe. A vote of thanks to Mr. Pierpoint for the loan of the lantern and useful attention, was awarded, and with which the meeting adjourned.

MANCHESTER AM: PHOT: SOC:—The monthly meeting of this Society was held on the 11th inst., in the Athenæum, Mr. J. Davenport, the newly-elected President, in the chair. Twenty-two members were elected, and the President and Secretary of the old Manchester Photographic Society were made honorary members, in response to a similar act of courtesy paid to this Society. Mr. Davenport, in thanking the members for the honour they had conferred upon him, gave a résumé of the history of the Society. He was glad to see several of the original promoters still taking an active part in the management of it. He took office with everything prosperous and promising. In 1886 the balance in hand was 3s., in 1889 it was £44 10s. In addition to this they had a library of over 250 volumes of photographic literature, and a valuable oil and lime-light lantern, elevator, screen, enlarging lantern, and cabinet of slides. The Society stood with assets of upwards of £100 and no liabilities. The Society's magazine, the *Record*, was profitable financially as well as photographically. Looking forward to the work of the Society, they were likely to have a busy year. But the chief would be the Photographic Survey of Manchester. The Council were beginning in earnest, and he hoped by the end of the season the greater part of the work would be completed. Mr. Wilcock, 335, Moss Lane East, was the Secretary to the Survey Committee, and after they had finished with the exhibition this week the scheme would be begun forthwith. Meantime Mr. Wilcock would be glad to communicate with anyone willing to take part in the survey. The Rev. H. J. Palmer gave his experience of the new Angol developer, and exhibited two enlargements by it. He spoke in the highest praise of it, and considered it the finest and best all-round developer before the public. An animated discussion followed on the subject of "Exposure Tables." Mr. Gilmour, in the absence of Mr. Steventon, read a paper selected from a periodical, condemning these tables as "degrading and misleading formulæ," but recommending the use of them for about a week, during the first attempts at photography, just to prevent waste of plates. It was unfortunate that Mr. Steventon could not be present to defend his position, as there were few to take his part. Messrs. Wheeler, Sykes, Parrott, Davenport, and Gilmour spoke in favour of Tables, while Messrs. Hart, Brooke, and Furnival argued that they attempted more than it was possible to tabulate, though they might be used to advantage during first attempts.

MONTROSE PHOT: ASSOC:—The monthly meeting of the above association was held on the 14th inst., the President (Mr. Ferrier) in the chair. Mr. Ross, the energetic Secretary of the Brechin association, read a very instructive paper on "Lantern Slide Making," and illustrated his remarks by showing a great variety of slides with the limelight lantern. After the customary votes of thanks the meeting terminated.

NEWCASTLE-ON-TYNE AND NORTHERN COUNTIES PHOT:

Assoc :—The annual meeting was held on Tuesday evening the 11th inst., in the Mosley-street Café, Newcastle-on-Tyne, Mr. J. P. Gibson in the chair. The election of officers was as follows : President, A. S. Stevenson, J.P. ; Vice-Presidents, J. P. Gibson and H. R. Procter ; Council, M. Auty, James Brown, T. Galloway, J. E. Goold, W. Parry, G. Proud, H. G. Ridgway, J. Hedley Robinson, H. Shand, and L. Williamson ; Hon. Treasurer, J. W. Robson ; Hon. Sec., Edgar G. Lee (11, Beverley Terrace, Cullercoats). The Treasurer's report showed a balance in hand of £2 13s. 3d. Mr. J. E. Goold read a paper on "Four Different Printing Processes suitable for Copying Tracings." Other printing processes were described by Messrs. M. Auty, James Brown, J. P. Gibson, W. Parry, and J. Pike. Some very fine photographs by Mr. Robert S. Redfield, Philadelphia, were exhibited by Mr. J. P. Gibson. Messrs. M. Auty, Jas. Brown, J. P. Gibson, J. E. Goold and W. Parry exhibited a number of photographs the work of the past season.

NORTH MIDDLESEX PHOT : CLUB.—On Monday, February 10th, the members of the above Club spent the evening in discussing the best light for use in the dark-room, and submitting several samples of glass to a practical test. For this purpose pieces of Ilford rapid bromide paper were used, and an exposure of ten minutes was given. Mr. Paul remarked that at previous meetings of the Club, when he had recommended cathedral green to be used, he had never advised that it be used alone, but in conjunction with a screen of canary medium, and expressed his belief that if forty thicknesses were used it would still be easy to fog a plate. Mr. Goodhew remarked that he should like to call attention to the fact that the safety or otherwise of a particular screen was largely influenced by the make of lamp. The Secretary said that in choosing a light to work by we had the choice of two evils—either it was necessary to have a light that was practically, if not absolutely, *no* light (if it was desired to have one that would have no effect upon the sensitive film, however long exposed), or a light which, while promoting ease of working, would cause fog if allowed to act for a comparatively short time : and therefore it was necessary under these conditions to choose one which hit the middle course ; that is, a medium which would not show any trace of fog with the longest *necessary* exposure on the most sensitive plates. Anything which cut off more light than this was not only needless, but was an actual disadvantage and detrimental to the best results, as nothing was more necessary than a good light to judge the negative by in developing, and for this reason he objected to such screens as had a mottled appearance (as cathedral green), as he opined that it made the judging of fine detail more difficult, and remarked that all knew the nuisance of emulsion on the back of a negative. The vote of the meeting was taken, when it was found that canary medium and yellow glass were the favourites. The thanks of the meeting were tendered to Mr. Lavanchy for conducting the tests. Next Monday, February 24th, Mr. Geo. Davison, of the Camera Club, will give a lecture entitled "A Chat on Pictures by Photography." Visitors are invited to attend.

PAISLEY PHOT : SOC :—A conversazione in connection with the opening of the photographic exhibition took place in the Picture Gallery of the Free Public Library and Museum on Wednesday, 12th inst., when there was a large attendance of members and friends. Owing to the indisposition of Mr. James Donald (President), Mr. Matthew Morrison took the chair. He expressed the pleasure it gave him to see such a large number present, which showed the interest taken in matters photographic by the public. He stated the number of members of the Society was steadily increasing, and as he knew there was a very large number of photographers in the town who were not members, he would give them a most hearty welcome to join the Society, and thus assist in the development and advancement of the art of photography. Through the kindness of Mr. Smiley (Hon. President), Mr. Donald (President), and Mr. Frank Wotherspoon, they were enabled to offer extra prizes for competition, and while in one or two classes there was keen competition, he was sorry the others did not come up to expectation. He supposed this was owing to the lateness of the season before they were classified, and the number of wet Saturdays they had during the summer. He believed, however, if these gentlemen were to offer the same prizes again another season, there would be a larger number of competitors. Mr. Geo. Mason, Mr. William Lang, jun., and Mr. John Fullerton had kindly acted as judges in the competitive classes. The following were the prize takers :—Landscape and architecture, Matthew Morrison, James Mure ;

portraits or groups, Robert Easton, Thomas Rastall ; photographs taken during the Saturday excursions, James Mure ; instantaneous or marine work, James Donald, jun., David B. Jack ; lantern slides, Thomas Rastall, James Mure, and a third prize was recommended to be given to Alexander Kilpatrick. At 8.30 the company proceeded to the Lecture Hall, where a lantern demonstration was given, 240 slides being shown on the screen by the oxy-hydrogen light. Fifty were from the York Society, fifty from Dundee Society, sixty-three competitive slides, and seventy-seven from Mr. R. M. Paterson, the whole of which were very much appreciated by the company. Those shown by the societies being so varied, gave them additional interest.

PHOT : SOC : OF IRELAND.—The annual general meeting of this Society was held in the Rooms, 15, Dawson Street, Dublin, on Friday evening 14th inst. The chair was taken at eight o'clock by Geo. Mansfield, Esq., J.P., president. The resignation of Mr. Mathew Hedley, Hon. Sec., on account of the delicate state of his health, was received, and on the motion of Mr. Louis Meldon, seconded by Mr. J. J. Dowling, was accepted with regret. A vote of thanks to Mr. Hedley for the efficient way in which he discharged the arduous duties attached to the post and the uniform courtesy which he displayed to members on all occasions was proposed by Mr. Woodworth, seconded by Mr. Blakeney, and passed unanimously. The annual report was then read by Mr. Carson. It was proposed by Mr. W. Robinson, seconded by Mr. Woodworth, and passed unanimously, that the report as read be adopted. Mr. Louis Meldon announced that Prof. Muybridge would deliver his lecture, under the auspices of the Society, on "Animal Locomotion," illustrated by the "Zoopraxiscope," on Monday, the 17th inst. in the Antient Concert Rooms. On account of the lateness of the hour it was decided that it would not be fair to ask Prof. Stewart to read his paper, which was accordingly adjourned to the next meeting.

SHEFFIELD CAMERA CLUB.—The election of officers of the above Club took place on the 27th of January, when the following gentlemen were elected :—G. T. W. Newsholme, F.C.S., President ; T. H. Morton, M.D., and J. H. Rawson, Vice-Presidents ; B. W. Winder, F.C.S., F.R.M.S., Treasurer ; G. E. Maleham, Hon. Secretary ; Council : W. Gilley, jun., W. Jenkinson, Prof. Arnold, H. Newell, J. A. Manton, L.R.C.P., M.R.C.S., and T. S. Yeomans. The inaugural meeting of the new session takes place on February 26th.

SPEN VALLEY PHOT : SOC :—A general meeting of the members of this Society was held on Tuesday the 11th inst., under the presidency of Dr. Farrow. The following gentlemen were appointed officers for the ensuing year :—President, Dr. Farrow ; Vice-Presidents, Mr. B. H. Goldthorp, Mr. Bell, Dr. John Sykes, and Dr. Dearden (Wyke) ; Treasurer, Mr. E. Smith ; Secretary, Mr. W. H. Wright ; Council, Messrs. A. Knowles, E. Hodson, J. C. Phelon, S. Blackburn, E. Hirst, A. Cooper, G. H. Dawson (Cleckheaton), J. W. Pitt (Liversedge), and H. Wilson (Lowmoor). It was decided to rent rooms at the coffee tavern for the use of the members ; rules were adopted, and it was decided to hold the ordinary meetings of the Society on the second Tuesday in each month. It was reported that the Society was meeting with much support, and the Council was empowered to fit up the premises, and purchase enlarging and other apparatus required.

ULSTER AM : PHOT : SOC :—The fifth meeting of the session was held in the Chemistry Class-room, Queen's College, on the 10th inst., Mr. C. C. Connor, Mayor of Belfast, in the chair, Professor Letts, President of the Society, delivered a most interesting lecture on "The Chemistry of Photography." The lecture was illustrated with a number of experiments, some being very elaborate and never shown in Belfast before. The lecturer first considered the blackening of silver chloride by light, and showed by experiment that chlorine is set free. The blackened substance, he said, was probably an oxy-chloride. The relation of the sub-chlorides of silver to photography in natural colours was explained and illustrated, and red and purple "photo salts" of silver, prepared without the action of light, were shown. The making and ripening of gelatine emulsion was then taken up. At the conclusion of the lecture the Mayor thanked Dr. Letts for the most interesting and thorough way in which he had dealt with his subject. A vote of thanks to the Mayor terminated the meeting.

WEST SURREY AM : PHOT : SOC :—A meeting was held on the 12th inst. The subject for the evening was to have been "The Chemistry of Development," by Mr. F. H. Smith, who was, however, prevented by business from being present. Another member

had consented to fill the breach, but he was called away at the last moment, when Mr. Davison, without any previous preparation, kindly stepped into the chair, and gave a capital lecture on "Exposure and Development," which was followed with interest by all present, several members taking part in the discussion. Mr. Graham brought up for inspection some prints from the negatives taken, by the flash-light lamps of his own manufacture, at the previous meeting.

WOLVERHAMPTON AM. PHOT. SOC.—The monthly meeting of the above Society was held in their rooms on Tuesday, February 11th, Mr. T. Ironmonger, the President, in the chair. Mr. H. E. Perry gave a demonstration on "Chloride v. Bromide Emulsions for Lantern Transparencies," practically illustrating the great difference between the composition of the plates of various makers and the great difference of time required for their exposure, afterwards showing by means of the lantern the great variety of tones that can be produced. His remarks and successful experiments were much appreciated by the members and their friends, of whom a good number were present. After Mr. Perry's demonstration was finished, a number of exquisite lantern slides, belonging to and kindly sent by the Ilford Dry Plate Company, were shown, and much admired; also three varieties of prints. A vote of thanks to Mr. Perry, proposed by the President, and seconded by Mr. Oakley, brought a very instructive meeting to a close.

WYLDE GREEN CAMERA CLUB—The first annual exhibition in connection with this society took place at the Town Hall, Sutton Coldfield, on Friday, January 31st, and Saturday, February 1st, when an interesting collection of photographs, numbering about 180, was on view to members and friends. Prizes were offered by the club for two competitions, open to members only. First: prize for the best print from a negative on an Ilford plate. The judge, Mr. E. C. Middleton, of the Birmingham Phot. Soc., awarded the prize to Mr. C. J. Fowler, for his platinotype print, entitled "Childhood's Happy Hours." "A Garden Pond" (silver), by Mr. T. Hooper, was mentioned as being a very good study of foliage. Second: prizes for the first and second best sets of three pictures. The first prize was taken by Mr. W. Betts, for three Welsh views, on Obernetter paper; these were closely followed by three local views (platinotype) by C. J. Fowler (second prize), the works exhibited in each competition being of very fair merit, the exhibitors mostly having only taken up photography some two years. Mr. G. H. Dugard, Vice-President, exhibited a collection of charming flower pictures, coloured by hand, on a photographic basis, also a number of copies of celebrated engravings, photographed about twenty years ago and in perfect condition. A number of members and friends attended the opening of the exhibition on the Friday evening. In opening the proceedings the President, J. B. Stone, Esq., delivered an address of a very practical character, upon amateur photography. In concluding his remarks he said that much of the success of the exhibition was due to the Hon. Secretary, Mr. W. F. Sadler, jun., who had worked in conjunction with his friend, Mr. C. J. Fowler. An oxy-ether limelight entertainment was given each evening, when some views of Rome were shown and described by Mr. J. Coley. A collection of views, "In the Potteries," by W. Betts; "In the Isle of Man," by H. Bilson; "Local and General Scenery," by C. J. Fowler; a collection of views kindly lent by the Editors *AMATEUR PHOTOGRAPHER*, a number of views kindly lent by the Britannia Works Co., Ilford, also added greatly to the enjoyment of the lantern entertainments.

(Several Societies' Meetings are unavoidably held over.)

PHOTOGRAPHING IN TURKEY.—The Austrian painter Adjukievitch, who has sprung into great renown as a painter of horses, has been commissioned by the Sultan to paint a picture representing a galloping troop of these quadrupeds, but with not a single human figure on the canvas. The Sultan holds very strictly to the Mussulman law, which forbids the depicting of the human form, and he has never consented to sit for his photograph. Not long ago a German photographer at Stamboul got into serious trouble for endeavouring to take an instantaneous photograph of his Majesty as he was going to the Mosque. The gendarmes fell upon the unlucky man, smashed his instrument, and carried him off to prison, where he lay three weeks. After this he was bidden to depart from the Turkish coasts, and was not allowed so much as twenty-four hours in which to wind up his business.—*Edinburgh Evening News*.

Exhibitions.

ROYTON EXHIBITION.

AN "International Photographic Exhibition" was opened in the Town Hall, Royton, on the 5th inst., in aid of the Church Restoration Fund, and remained open until yesterday, February 20th. It has been got together mainly by the exertions of the Rev. J. G. Gibson, who has been aided by many friends, especially from the neighbourhood of Newcastle, Mr. Gibson being an old member of the Newcastle and Northern Counties Photographic Association. A capital list of awards has been arranged, including no less than twenty-one classes, with a silver and bronze medal for each, amongst them being champion classes for amateurs and professionals, with gold and silver medals.

In the great majority of the classes amateurs and professionals do not compete together, and in the amateur classes the photographs must be "entirely the work of a bona fide amateur—selection of subject, exposure, development, retouching (if any), printing, toning, and mounting," and amongst the rules appears this: "No photograph or series of pictures which have gained first prizes or medals at any open competition will be eligible for competition, except in classes XX. and XXI., though they will not be debarred from exhibition." It will be seen that the conditions are favourable to fair competition, and a capital exhibition has been got together, some of our leading amateurs and professionals sending specimens of their best work. The exhibition fills two rooms in the Royton Town Hall—we may say overfills, as many good pictures have been "skied"—and contains 465 exhibits sent by 73 amateurs and 43 professionals, besides some 47 sets of lantern slides, which our space does not permit us to notice particularly. As 42 medals have been awarded amongst 107 exhibitors the number cannot be considered unduly limited, and that these have been pretty evenly distributed is evidenced by the fact that only Messrs. Austin, Beck, Cole, Gibson, Kitchin, H. P. Robinson, and Sutcliffe have each obtained two.

Class I.—(Landscape or Seascape for Amateurs only) is represented by 65 exhibits. The silver medal is awarded to J. E. Austin for Nos. 18, 32, 34, 38. "The Silver Stream," upon which the prize label is placed, is badly skied, but reminds us very forcibly of Gale's "Sleepy Hollow;" the others are, "Strictly Preserved" (a Norfolk Broad), "Shiere," and "A Golden Summer," which last strikes us as the best of the series. The bronze medal is won by C. Court Cole, for three landscapes, of which sunset effect, with sheep, is exceptionally good. Several pictures, by Ernest Beck, of Whitby, are decidedly good. Nos. 59, "On the Basingstoke Canal," and 28, "View near Fleet," by F. Muncey, are good specimens of bromide printing. No. 42, by the Rev. H. B. Hare, "The Young Fisherman," is a picturesque subject. No. 32, "Neddy Won't Go," by the same, is spoilt by the too pronounced movement in the trees. His others are "Low Water," "The Cooling Stream," and "River Scenery on the Frome." Amongst others worthy of notice in this class are Nos. 23, "Hand Camera Work," by H. Tonkin, and "Views in Monsall Dale," by Tom Heywood. Why will amateurs print on pink paper? Surely the garish effect might be left to the cheap professional.

Class II. (Landscape and Seascape—Professional) is well represented. Nos. 118, "Head of Buttermere," 123, "Buttermere;" and 136, "Study of Cattle, Thirlmere," by Green Brothers, are too much skied for being well seen, but are good. The silver medal goes to J. Pike for "A May Morning," which strikes us as rather flat and wanting in atmosphere. J. P. Gibson gains the bronze medal for No. 119, "September," printed in Blanchard's platinum black, which again is badly placed for close inspection, but we think we should have reversed the verdict of the judges. F. M. Sutcliffe is highly commended for several pictures, "A Wet Harvest," "Lingering Gleams of Sunshine," and "The Fast Declining Day," all good. A striking picture is No. 130, by Clarence James. "The sky is changed! And such a change! Oh night and storm and darkness!" but marred by the too deep shadows.

Class III. (Portraiture—Amateur) does not call for much remark—portraiture is perhaps not the branch of the art in which amateurs most excel. No. 296, by Samuel Butler, gains the

silver medal, and is a well composed portrait of a child. Nos. 276 and 285, by the same gentleman, are also above the average. Alfred Stieglitz receives a bronze medal for three portrait studies.

In Class IV. (Portraiture—Professional) Messrs. W. J. Byrne and Mendelssohn are well to the fore, so is the professional retoucher. The former is awarded the silver medal for a frame containing 40 portraits of children, whilst the second gentleman has the bronze medal for some large heads, especially No. 109, "Perigal." Some large portraits by W. W. Winter, Nos. 104 and 105, are good; and Ralph Robinson has some of G. F. Watts, R.A., and Sir J. E. Millais, Nos. 92, 93, and 98, which are quite unconventional, and perhaps an improvement on the ordinary run.

Class V. (Architecture—Amateur) is, on the whole, a good one. C. Court Cole takes the silver medal with Nos. 223 and 225, "Oxford Interiors," of small size but exquisite detail; and Ernest Beck the bronze medal with No. 227, "Lady Chapel, York Minster," and 228 and 229, "Haddon Hall," much less elaborate subjects, but none the less effective. Other noticeable pictures are 211, "Kirkstall Abbey," by Rev. H. K. Macdona; 232, "The Reredos, Westminster Abbey," by F. Muncey; and 231, "A Drawing Room Interior," by Rev. H. B. Hare.

Class VI. (Architecture—Professional) is but a small class with only 6 exhibitors. J. P. Gibson takes silver medal with 194, "Interior of Hexham Abbey Church," of which he has several others, all first class; and H. W. Reeves the silver medal with "Drawing Room" interior.

Class VII. (Enlargements—Amateur) is also a good class with 11 exhibitors. Many of the exhibits have the small print attached, which certainly assists one to judge of the technical qualities of the enlargement, but this does not seem to be a rule.

The silver medal goes to W. H. Kitchin for a capital picture "On the Lynn," No. 259. T. H. Faulks' picture, No. 244, "A Pilot Race," is almost equally good, being full of spirit and pluck, and not so flat as many enlargements, and deservedly takes the bronze medal.

The Rev. J. G. Gibson, the promoter of the exhibition, is very highly commended for No. 257, "A Veteran;" and Mr. T. J. Bright sends several very good enlargements from what is evidently "snap shots," one of which, No. 273, "We're not Afraid," received commendation, though equally good, if not better, is 256, "A Water Party," a group of boys paddling in the water. Other noticeable pictures are Nos. 245, "View in Australia," by R. J. Owell; 262, "Tintern Abbey," by T. H. Faulks; and 263, "The Village Smithy," by W. H. Kitchin.

Class VIII. (Enlargements—Professional).—No. 208, "The Morning Mist," by M. Auty, which receives the silver medal, is a very fine picture, the delicate haze being beautifully represented; so also is 203, "Cloud Effect," by C. James, which deserved notice. The bronze medal is awarded to F. Whaley, for "Sunset on the Don"; 209b, which is rather too "naturalistic" for our tastes, the trees having suffered very much in focus.

Class IX. (Instantaneous—Amateur).—Rev. J. George Gibson receives silver medal for No. 380, "Scene in Camp," and Ernest Beck an extra silver medal for "Wind against Tide" and "Fishing Cobble," Nos. 383 and 384. A. R. Dresser's "Dog Studies," with a hand-camera, Nos. 377 and 378, are many of them good.

Class X. (Instantaneous—Professional).—Only 4 exhibitors. "The Penny Ferry, North Shields," which gains the silver medal, by Loyd Sawyer, is a capital picture; No. 330, "H.I.M.S. Victoria," firing 100-ton gun, is one of a series by J. E. Goold, showing good instantaneous effects, and receives the bronze medal. The pictures of "Henley Regatta," by Johnson Bros., are also good.

Class XI. is for beginners who have commenced photography since January, 1889. Only two competitors, and R. B. Lodge gets the bronze medal for a very creditable picture, "Pheasant Shooting."

Classes XII. and XIII. are Lantern Slides.

Class XIV. is for the best picture taken on one of Fry's plates. This being a trade prize did not attract many competitors, and was awarded to Mr. F. Whaley for No. 706, "Sunset." There is nothing very noticeable in this class, except that an extra bronze medal seems to have been awarded to one of the judges, which is surely unusual.

Class XV. (Mechanical).—These subjects do not usually excite much interest, but Royton being a cotton manufacturing centre, they may no doubt appeal more strongly to its inhabitants than to artists generally. There are a considerable number of frames by a small number of competitors containing photographs of complicated machinery, generally very well done, as such subjects usually come out well. Mr. Thomas Scottton takes the silver medal for an "Interior of Millwright's Shop," and Mr. W. Parry the bronze medal for "Horizontal Marine Engine."

Class XVI. (Scientific) may also be despatched in a few words. The term is somewhat elastic, but the exhibits are, as might be expected, mostly photo-micrographs. Mr. A. A. Carrell obtains the silver medal, and Mr. S. F. Clarke the bronze medal, for some very good work, amongst which may be noted *Pleurosigma angulatum* $\times$ 4,000 by the former gentleman. Tongue and lancets of drone fly, by E. T. Shelton, No. 397, is also good. The class includes also three specimens of photo-etching by W. L. Colls, as examples of scientific work, which have not attracted the notice of the judges, showing, we think, the desirability of more exact definition of what is meant to be included in such classes as this.

Class XVII. (Landscape with Figures—Amateur). This is a specially interesting class, as the medals were presented by ourselves, and includes some capital work. No. 319, "Mud Pies," by J. E. Austin, which gained the Silver Medal, is a very fine piece of work, the unstudied attitude of the two little urchins being highly commendable. No. 314, "Watching for Trout," by same gentleman, is equally good. Mr. T. J. Bright obtains the Bronze Medal for an enlargement, No. 324, "Three Little Maids from School." No. 318, "The Shrimper," by C. Smerdon Roe, is worthy of its Certificate; and we must also commend very highly No. 310, "A Lost Stitch," and No. 311, "A Select Audience," by the same gentleman. No. 316, "Grandfather's Pet," by Archd. Watson, is also a very pleasing picture.

Class XVIII. (Genre, the subject selected being "The Happiest Land," from Longfellow).—The prize in this (a silver medal), was offered by our contemporary *Photography*; it only, however, attracted one competitor, J. Hubert, to whom the medal was duly awarded.

Class XIX. (For the Best Picture in the Exhibition, irrespective of class).—The medals were awarded as follows: silver, H. P. Robinson, for No. 183, "Gossip on the Beach;" bronze, F. M. Sutcliffe, No. 174, "Dinner Time," and commendation to C. Court Cole, No. 19, "Three Landscapes." All these pictures also obtained awards in other classes.

Class XX. (Champion—Amateur).—The picture by A. G. Tagliaferro, No. 81, "A Favourite Spring," which obtained the gold medal, is certainly a very fine one and deserves the distinction, so does 71, "Cattle Study," by J. W. Kenworthy, which was awarded a silver medal. No. 76, by C. S. Roe, "The Old Ferry," is also very good, and receives an extra bronze medal. We may also single out for commendation No. 74, "Cooling Waters," by J. E. Austin, and No. 75 "Spring Cleaning—His only Refuge," by H. H. Williams. It is, perhaps, a drawback to a "Champion" class that, attracting as it does, the very best work of exhibitors, pictures may and must remain unmedalled which are in fact superior to some which are medalled in other classes. Of course they have had their reward.

Class XXI. (Champion—Professional).—The pictures which receive the principal awards in this class have already been named in Class XIX., viz., H. P. Robinson's "Gossip on the Beach," (gold medal), and F. M. Sutcliffe's "Dinner Time," (silver medal). W. W. Winter also obtains a bronze medal for 171, "My Mammy." We also note "The Rhymester and his Victim," No. 175, by W. W. Winter, "The Old, Old Story," No. 169, by C. E. Wyrall, "Yacht Studies," by West and Son, "Water Rats," No. 170, by F. M. Sutcliffe, and many other well-known pictures, which it is always a treat to see and which would not, probably, be attracted were there no Champion class.

Amongst pictures which are unclassified, being too late or otherwise not for competition, we may name with commendation No. 450, "Reredos of St. Paul's Cathedral," by F. W. Edwards, about 24 by 18, taken direct and a capital example of platinotype. No. 455, "Your Turn Next, Sir," by F. Whaley, No. 452, "My Time is Done," Mr. and Mrs. Auckorn, No. 435, "Peeps of Holland," a set of six quarter plates in platinotype, by W. L. Colls, and No. 406, a series of "Norwegian Views," also in platinotype, by Paul Lange, one of which entitled "Sunrise," is particularly good.

To Correspondents.

THE insertion of **QUERIES** and **ANSWERS** is attended with much labour, and it is requested that the questions asked and the answers given shall be short and to the point. No charge is made.

All communications for the columns are to be addressed to The Editors, "Amateur Photographer," 1, Creed Lane, Ludgate Hill, London, E.C.

RULES.

1. Write clearly and distinctly on one side of the paper only.
2. Write each Query or answer on a separate sheet of paper.
3. Write the name and address legibly on the back of each communication, and sign all Queries and Answers with name or *nom de plume*.
4. All matters for these columns MUST be received by TUESDAY MORNING'S POST.
5. The Editors do not undertake to answer questions by post.
6. In answering Queries correspondents are requested to mention, in every instance, the number and full title of the query referred to.

QUERIES.

3461. **Camera and Set.**—I am in want of a good cheap camera with all movements, lens, and tripod, or a set, including camera, chemicals, etc., by good maker. Can any reader of the AMATEUR PHOTOGRAPHER recommend one to me? Size of plate required is half-plate. I do not want to pay a fancy price for one; price must be very moderate. Please state price and maker's name, and oblige.—LUDER.

3462. **Copying.**—I want to copy some old and faded photographs. Can any reader of the AMATEUR PHOTOGRAPHER give me full particulars as to the process? I want to know the process from the beginning to the end. Please say what paper, etc., to use, and you will greatly oblige.—LUDER.

3463. **Enlarging Apparatus.**—Can any reader of the AMATEUR PHOTOGRAPHER give me particulars for making an enlarging lantern, as I cannot afford to buy one? Any hints as to enlarging would also be gratefully accepted by.—LUDER.

3464. **Toning.**—Respecting my query No. 3443 last week, I made up formula according to Mr. E. J. Wall's "Dictionary of Photography," to give black tone. I found that it did not give black tone, only turned my prints reddish-brown. The paper I use is ready sensitised paper.

Chloride of gold	4 grs.
Uranium nitrate	4 "
Chloride of sodium salt	60 "
Acetate of sodium	60 "
Distilled water	32 ozs.

Fixing bath.

Hyposulphite of soda	2 ozs.
Salt	1 oz.
Bicarbonate soda	1 "
Water	1 pint.

This was given by "Working B." taken from the AMATEUR PHOTOGRAPHER, May 10th, 1889, No. 240.—W. H. A.

3465. **Stereography.**—I have a pair of stereo lenses which came off a stereo slide. Could they be made into a camera for taking views, etc.? The rackwork is all complete.—F. J. T.

3466. **Dallmeyer's Rapid Landscape Lens.**—Can any of the readers of this paper give me their opinion on Dallmeyer's rapid landscape lens? Will it do as a substitute for the rapid rectilinear, or is it only made for distant landscape views?—W. F. WRATISLAW.

3467. **Hand-Camera.**—What is a useful speed for shutter of quarter-plate hand-camera? Mine is $\frac{1}{10}$ slowest to $\frac{1}{100}$ quickest (tested), and I think it too rapid for average work. I am about to make a hand-camera with dark slides, and should be glad to have an opinion about Barner's single slides for the purpose; would it be safe to draw out slide without covering with a cloth?—OLD HAND.

3468. **Photographing in Venice.**—Are there any restrictions about taking photographs in Venice, and are the people troublesome and curious when they see a camera set up? I intend taking a 7 in. and 9 in. lens for half-plate; would a longer focus lens be of any use?—O. J. S.

3469. **Place's Shutter.**—Will some one kindly inform me where I can get a Place's ebony (or ebonite) instantaneous shutter for half-plate, and about price of same?—W. L.

3470. **Bottles.**—I have several stoppered bottles that have contained solutions of nitrate of silver for years, and have a grey deposit on them. How can I thoroughly clean them?—W. H. H.

3471. **Retouching.**—What is the correct thing to use for retouching on smooth-surface bromide paper? I have no difficulty with the matt-surface paper, but cannot manage the smooth-surface paper?—S. G. S.

3472. **Cyanotype.**—In the preparation of cyanotype paper, citrate of iron and ammonium and red prussiate of potash are used in equal quantities. What would be the result if there were an excess of either? Will some one kindly tell?—INQUIRER.

3473. **Using Camera in Hand.**—I should be very grateful for any hints how to use a half-plate camera for instantaneous work suspended from my shoulders, how to overcome the focussing difficulty, etc.? My lens is a Ross 9 in. R.S. with Kershaw shutter. Please do not refer me to any back numbers, as I am living for six months in Dresden, away from all my photo books.—E. WINN.

3474. **Duty on Plates.**—Can any one tell me if there is any duty on plates coming from England into Switzerland? The dealer of Thomas's plates in Lucerne says he has to pay a third of the cost for duty; this seems enormous, and the half-plates cost 6 francs 50 centimes. An early answer would oblige. FERRIER-KERR.

3475. **Obernetter Paper.**—Would some one of the numerous readers of the AMATEUR PHOTOGRAPHER kindly tell me the best toning bath, and most reliable, for Aristotype paper (Obernetter). I have twice tried the following, and failed each time, viz.:
Ammonium sulphocyanide 1 drm.
Hypo of soda 2 grs.
Distilled water 6½ ozs.
Chloride of gold 1 gr.

I have followed the instructions to the letter. The prints appeared all right, as they became yellow, but this yellow tone did not alter after three hours' immersion. Can any one explain this?—AULD REKKIE.

3476. **Foreign Tour.**—I should be glad if any one will give me photographic information respecting the following places: Cologne, on the Rhine, by steamer to Coblenz, S. Gaar, and Mayence, Nuremberg, Munich, and the country round Ober-Ammergau. Is amateur photography permitted at all or any of the above? and where can I get a book containing English and German phrases and questions as to photography? Is photography possible from the Rhine steamers in the middle of May? and can photographs be obtained of the Passion Play at Ammergau?—FREESTER.

3477. **Cocking.**—I find great difficulty in preventing my silver prints cockling. I do not gum them in the books, but slip the corners through slits in the mount, and after a time the prints begin to cockle until in places they resemble corrugated iron. I believe that the paper I use is stamped out by a machine. Would that strain the paper and cause it to cockle?—CARTLOU.

3478. **Taylor's Detective Lens.**—Would any reader who has taken any negatives with the full aperture (f/5.6) of Taylor's No. 3.5 in. "D" lens be so kind as to let me examine the definition of prints made from them? I will take every care of them, pay expenses, and return them promptly.—SAUMUR (address with Editors).

3479. **Hydroquinone for Lantern Slides.**—Will any reader kindly state what constitutes the best hydroquinone developer for lantern slides?—A. E. G.

3480. **Toning Formula.**—What is the best toning formula, so as to get the blue-black or blue-grey tone that is so much admired?—A. E. G.

3481. **Willessden Paper.**—Could any one kindly tell me where I can get Willessden paper in Edinburgh, and also price of same? If it cannot be had in Edinburgh, where can it be got?—F. G.

3482. **Amateur, What may he Do.**—As so many prizes are offered by photographic societies "for amateurs only," could you or one of your many correspondents kindly tell me (1) the exact difference between an amateur and a professional photographer, (2) Does an amateur disqualify himself for competing in amateur competitions by taking money sufficient only to cover expenses for photographs of friends, (3) Does he disqualify himself by selling his photographs for charitable purposes?—X. Y. Z.

3483. **Lantern Slides.**—Can any one inform me how to make magic-lantern slides, or a good book on same?—R. G.

3484. **Portable Studio.**—Would any of your numerous readers kindly tell me how to make a portable studio about 12 or 15 ft. long, such as are used at fairs, kind of material to be covered in, and probable cost? Sketch would oblige.—P. R.

3485. **Enlarging by Lantern.**—Will any reader kindly tell me if it is necessary to reverse the lens of lantern to enlarge with?—PIVOT.

3486. **Lens.**—I have a half-plate and also a quarter-plate portrait lens. Would any reader advise as to which is best to use for cartes de-visite, or does it not make any difference?—PIVOT.

3487. **Exposure.**—Will some one of experience kindly inform me the relative rapidity of Wratten and Wainwright's instantaneous plates, as compared to Ilford ordinary, and oblige?—R. W.

3488. **Solutions.**—(1) Will anyone kindly give me the most reliable, exact formula from experience of a 10 per cent. solution of pyro, using distilled water? (2) Also one containing metabisulphite of potash as a preservative; and inform me which is considered the best of the two formula, from practical experi-

ence, using Ilford plates (ordinary). (3) Also 10 per cent. solutions of ammonia and bromide, and the proportions to be used for the above plates (half-plate size). (4) Also specify any text-book containing particulars concerning 10 per cent. solutions?—G. B.

3489. **Flashlight.**—Can any one recommend me a good flash-light compound for lighting with a match and not for use in a lamp. Is such a compound more brilliant than magnesium powder flashed through a spirit lamp, and is it also more dangerous, and is it quick enough to take anyone before they can move? Can anyone recommend such a compound in preference to magnesium powder flashed through a spirit lamp?—G. B.

3490. **Enamelling.**—With regard to the enamelling plates sold by Gotz, as mentioned by C. Hethon Lewis, I find I cannot obtain the high glaze I expected (I mean equal to enamel almost), although I followed the directions as set out. Perhaps some kind reader would tell me the reason, if they have met with the same thing, and suggest a remedy?—G. S. B.

3491. **"Notice to Amateurs."**—Will some reader of this paper kindly give me particulars concerning the "Notice to Amateurs," in the last issue, about reading the article on page 505, "British Journal Photographic Almanac"? Perhaps one of the lucky forty-nine would give particulars for the benefit of others.—G. B.

3492. **Test Papers.**—I should be obliged if any one would specify in what books I can find full particulars concerning test papers, as I cannot find anything about them in ordinary text-books.—G. B.

3493. **Pyrocatechin.**—Can any one give me any particulars concerning the new developer "pyrocatechin," and where it can be obtained, with price of same?—G. B.

3494. **Lancaster's Combination Lens.**—Will any one who has used it give me an opinion on Lancaster's combination lens?—T. T.

3495. **Rapid Rectigraph.**—Will someone define and distinguish the two terms rectigraph and rectilinear, or say where such definition may be found?—J. W. W.

3496. **Enamelling Prints.**—I cannot succeed in enamelling prints by optical contact with glass; no matter what care I take in cleaning the glass, placing the glass and print together under water, and squeezing, I always get the same result, a good gloss on the print, but covered with small rough spots. Would some amateur kindly help me?—H. Y.

3497. **Unmounting Prints.**—I have a number of stereoscopic views, but with nearly all of them I could not get the stereo effect, so I measured the centres of the pictures and found they were not all the same; in fact, some were $\frac{1}{8}$ of an inch out. So I wish to unmount them, and fix them to the same distance as those which do give the proper effect. Would some amateur kindly advise me as to the best way to unmount them?—H. Y.

3498. **Cloth for Shutter.**—Will some reader please tell me where I can get a piece of cloth (light-tight) same as used for blind roller shutters?—SHUTTER.

3499. **Hand Camera.**—I should be much obliged for advice re the following: What is the best and handiest hand camera, lens, etc. (adaptable for tripod), to take as travelling companion on the Continent with a view to securing the best photographs for the magic lantern? I rather prefer glass negatives, but should not object to use others if they would suit better.—E. N. P.

3500. **Postal Club.**—Will some secretary of a postal photographic club send particulars to H. J. A., who would like to join one? (Address with Editors.)

3501. **Stereoscopic Photography.**—Will some of your readers kindly give me (1) a list of shutters suitable for above, stating prices; (2) a list of books on the subject, giving price and publishers' names?—MUWA.

3502. **Aptus Universal Hand Camera.**—Will some one who has tried the above kindly give experience? Would a 6 in. Ross rapid symmetrical be a suitable lens for the 5 by 4 size?—A. J. H.

QUERIES UNANSWERED.

Jan. 3rd.—Nos. 3339, 3347, 3348.

10th.—Nos. 3353, 3354, 3356, 3359, 3364, 3367.

17th.—Nos. 3339, 3370, 3371, 3372, 3375, 3376, 3378, 3379.

24th.—Nos. 3383, 3385, 3386, 3389, 3392, 3393, 3394.

31st.—Nos. 3401, 3403, 3405, 3406, 3409, 3410, 3412, 3414.

Feb. 7th.—Nos. 3417, 3421, 3422, 3429, 3430, 3431, 3434, 3435.

14th.—Nos. 3436, 3437, 3441, 3445, 3449, 3451, 3452, 3453, 3454, 3456, 3457, 3459.

ANSWERS.

3438. **Changing Bag.**—If "W. J. W." will send me his address, I will write him, giving particulars of a simple and reliable home-made changing bag of the sort described, those sold by dealers being often needlessly expensive.—H. J. B. (address with Editors).

3438. **Changing Bag.**—If "W. J. W." will refer back to the AMATEUR PHOTOGRAPHER about three months he will find full description of the best

changing bag I have ever seen. It is by H. Yeomans, and occupies about the bottom quarter of a column, in the region of the competitive papers. I have mislaid the number, or I would have given a more direct reference.—NORTHERN.

3438. Changing Bag.—At Jonathan Fallowfield's, 35 and 56, Lower Marsh, Lambeth, S.E., or any good photographic dealer. You can make one yourself for a few shillings. Full descriptions have been given in recent numbers of this paper.—W. A. J. CROKE.

3439. Instantograph.—This lens is a very fair one for the money. You must remember when you give such low prices you cannot expect first-class articles. I should advise you to buy a better make, and a more expensive one while you are about it.—W. A. J. CROKE.

3439. Instantograph.—This camera is extremely light, portable, and at the same time a rigid camera, and is, in my opinion, undoubtedly the best of any of the cheap makes. The lens is exceedingly good as a single lens, and cannot be beaten at the price. I would forward sample of work done with above upon receipt of stamped addressed envelope (through Editors).—CLAUDIUS.

3439. Instantograph.—I bought a half-plate in 1855, a very clumsy camera as compared with their present make, with a loose base-board, but so faithfully built and of such good material that I have rarely fogged a plate, and those few plates which have been fogged I can trace, nearly all of them, to my own carelessness. As to the lens, I found such difficulty in focussing that I discarded it for a Ross R.S. 8 by 5, such a good instrument that I have not used the Instantograph lens again; but as, till I got a focussing glass, I had the same difficulty with the Ross lens, I conclude the fault was in my eyes, as a young neighbour who often borrowed my camera got perfect definition with both lenses. I am using the 1885 camera to the present day, and but for the awkward loose base-board I would not wish for a change.—NOVOCASTRIENSIS.

3439. Instantograph.—I can make no complaint of the camera. It is compact and complete, and cheap. But my individual lens had a flare spot, which was very distinct when I cussed for 75 yards. Perhaps mine was an exception.—J. W. W.

3440. Set of Apparatus.—Consult the lists of any decent maker; or, if you like to write to me, I shall be glad to advise you. Ilford plates on Thomas' extra-coated will serve you well.—W. A. J. CROKE.

3442. Spilled Negative.—If when you say the silver you mean the film, soak for a couple of minutes in boiling water, and the film will at once leave the glass.—W. A. J. CROKE.

3442. Spilled Negatives.—In each ounce of methylated alcohol dissolve 3 grs. of pure cyanide of potassium crystals. It is best to go all over the film, rubbing lightly, just bearing a little where the spots are. After all the spots or markings are removed, it is best to flood the plate with fresh methylated spirit.—J. H. M.

3442. Spilled Negative.—Try long immersion in fresh hypo bath. If this fails, well wash, then gently rub spots with a tuft of cotton-wool, moistened with a fairly strong solution of cyanide of potassium.—C. J. E.

3443. Toning.—The following borax formula will give you good tones. If you really wish a very black tone, use 2 grs. of gold instead of 1; but be careful you do not stain your prints. Stock solution: 1 oz. of the finest powdered borax dissolved in 2 quarts of water. Solution for use: Take of the above borax solution 8 ozs. to 1 gr. of gold, or, in your case, 2 grs. of gold. This will tone one sheet of paper.—W. A. J. CROKE.

3444. Japan, Plates in.—Messrs. Cocking and Co., Yokohama, keep stock of all photographic goods.—J. H.

3446. Opaline.—The best mountant is gelatine, which should be used in a rather weak solution. Place plenty on glass and print, and bring them together, and then by means of a squeegee or fingers work out all air bubbles and superficial solution from between them, commencing at centre and working towards edges. I mount mine wet and then when dry trim and fasten on back with paste or strong gum, and place under strong pressure till firm.—C. J. E.

3447. Instantograph.—All cameras now are made conical shape. They are much more compact than the square bellows, and better in every way.—W. A. J. CROKE.

3448. Merveilleux.—The rapidity of exposure depends entirely upon the relative focus and aperture of the lens, and not at all on the camera. You can, therefore, fix a rapid lens to your camera to take instantaneously.—W. H. H.

3448. Merveilleux.—Yes, it can certainly be fitted with an Instantograph lens. Only a slight alteration will be needed, if any. This you must see for yourself.—W. A. J. CROKE.

3450. Hydroquinone and Intensification.—“O. M.” will find the formula for the hydroquinone as used by me in the AMATEUR PHOTOGRAPHER of November 29th, 1889, p. 350. Of all the formulae I have tried it is by far the best. Hydrate of soda, which is recommended by the Ilford Company, has no advantages that I can discover. It is highly deliquescent, and so difficult to keep, and

inconvenient to handle. “O. M.” should mix his own solutions if he wishes to ensure their efficacy, and would probably save 500 per cent.—A. E. VENN.

3455. Hydroquinone and Intensification.—“Lola” must accept all responsibility for the term “Infallible cure.” I disclaim it. (1) I develop negatives with pyro, and lantern plates with iron or hydroquinone; but whatever may have been the original developer, my method is the same. (2) I have given the reference for this formula in reply to query 3450, but as “Lola” is presumably a lady I give quantities to save her the trouble of reference.—

Hydroquinone ...	...	...	20 grs.
Sulphite of soda ...	...	...	80 "
Carbonate of potash ...	...	...	60 "
Water ...	...	...	4 ozs.

Like “Lola,” I, too, have achieved good results with sulphite of soda, but infinitely better with ferrous oxalate, and best with hydroquinone, and with the two last there is not the risk of hopelessly reducing the image that there is with the sulphite, which is at best a treacherous medium, attacking the film savagely, and often unevenly, and a very unsafe agent with a valuable negative. I have only an elementary knowledge of chemistry, and don't deal with its alchemical abracadabra, but I take it that the mercury is the intensifier, and the other agents but darkening media. I too often find that a film will not bleach in the mercuric solution, but I proceed and achieve the same results as if it did. It would seem that bleaching is not an unfailing symptom of the intensifying action of the mercuric chloride.—A. E. VENN.

3460. Hand-Camera.—I should certainly recommend the Facile, sold by Fallowfield, of Lambeth. It is certainly cheap and reliable, at the same time being extremely simple to use, and very effective in its work.—INSTANTO.

3460. Hand Camera.—I consider Fallowfield's Facile camera by far the best, cheapest, and most effective. It takes a dozen quarter-plates, and they are changed by turning a knob at the side. There is no bother and lost time with loose backs. The lenses too are perfect. It is the most delightful camera too I know of for taking “shots in a crowd” without being noticed. Being simplicity and cheapness itself, I cannot speak too highly of it.—F. P. P.

3460. Hand Camera.—The Facile is undoubtedly the best, cheapest, and most effective hand camera in the market for taking twelve quarter-plates or films without changing. If Mr. Dundas writes to Mr. Fallowfield he will send full particulars and specimen prints taken with either the landscape or rapid rectilinear lenses.—L. H. S.

3460. Hand Camera.—Fallowfield's is the latest and best up to date. I should advise your calling in and looking at it if you are anywhere in that direction.—W. A. J. CROKE.

3460. Hand Camera.—Your correspondent cannot do better than get one of Fallowfield's Facile hand-cameras, for they are certainly the cheapest in the market and quite equal to other makes at much higher prices. There is space for a dozen quarter-plates, the lenses work splendidly and really good work can be accomplished.—G. JENKINS.

EDITORIAL.

NOTE.—Anyone requiring an opinion upon photographic apparatus, plates, etc., must give a number or initial for identification, as in no case will makers' names be inserted in this column.—EDS. AM: PHOT:

REV. T. B. HARVEY BROOKS.—We should say plates.

X. Y. Z.—It is held that an amateur photographer is one that does not practice photography as a means of livelihood. We insert your query in full, as some of our readers may be disposed to give their opinions more fully.

J. M. M.—The hand-camera you contemplate is an excellent tool to work with, the lens all that can be desired, the changing back a little clumsy perhaps but certainly to be preferred to 2. But for completeness and ease of working we advise camera 3, fitted with the lens mentioned. Shall be pleased to give any further information to “A Subscriber and great admirer of the AMATEUR PHOTOGRAPHER and the Reporter.”

W. EYDMAN, JUNR.—We never name apparatus. You make a selection of three or four, and we will advise either under number or letter.

JOHN E. GREAVES.—We should recommend Nos. 2 and 3. Really cannot advise you as to shutter; write to the one or two firms who make apparatus for stereoscopic photography a specialist.

CHAS. S. TICEHURST.—Address your letter to the firm—at Dundee will find them; and Aberdeen the second firm you name.

REV. E. J. POPE.—Your query is inserted. Would it not be possible to secure a good set of photographs? Perhaps you will write us, or better still as you pass through London give us a call, but please make an appointment on a Tuesday or Thursday, most convenient.

W. K. BURTON (Tokio).—Yours is a capital letter; will write you later.

EUSTACE PINKERTON.—(1) We have used the camera. (2) We believe it to be quite possible for all objects to be in focus at or about the distance mentioned, but we cannot say from our own knowledge that such is the case with the lens you name.

MAJOR E. J. BECHER, R.A.—MS. to hand, for which many thanks.

CYRIL S. COBB.—Very kind of you to call our attention to the book. “Trubner's” have not sent a copy for review, or we should certainly have given it a notice. Have you seen AMATEUR PHOTOGRAPHER Prize Pictures, No. 1? We should value your opinion upon it. Could you spare time to call any Tuesday or Thursday after 2 o'clock.

THETA.—Will write you very shortly; should be very delighted with some of the slides; it is good of you to help us. The AMATEUR PHOTOGRAPHER lantern slides are greatly appreciated. We have a very fair list of competitors in “Lantern Slide Competition,” but have not received 2,000 slides, but then we have only one poor little gold medal, and silver and bronze medals, and no rich firm of plate makers to help us advance the “medal craze,” or rather craze for medals.

A. R. DRESSER.—You are quite right, and you may depend upon it that the creating of a prize for a sub-editor, who, doubtless at his own suggestion, assisted in judging, owing to the fact that one of the advertised judges was on his back with the epidemic, will not be overlooked by us, or our readers. But then when a sub-editor rises to the distinction of “opening an exhibition,” his services ought to be considered, though an award has to be created for him. That sub-editor must indeed feel exalted, for never before in our experience has the purple fallen upon the shoulders of even an editor of a photographic journal. On the other hand, local interest must have been at a low ebb to necessitate that a stranger, and only a sub-editor, should have to be called upon to perform the ceremony. If it had been known that such an honour was to be thrust upon the “Fourth Estate,” doubtless there would have been a galaxy of editors of photographic journals ready and willing to combat for the right to “say a few words upon this auspicious occasion.”

J. B.—It is very easy to avoid the mistake of exposing the wrong side of bromide paper. If your sense of touch is not delicate enough to detect the right side from the wrong, place the sheet on the warm hand, and it will presently curl. The concave side will be the sensitive one.

PINESTAS.—A and F are the best, and are about equal in performance. (2) Immaterial, if you have an honest man to deal with.

PRINTS.—Consult a text-book on photography. Time, about fifteen minutes.

CURIOS.—All the goods made by the firm named are reliable, but we are not acquainted with the working of the special apparatus named.

W. S. M.—We prefer B and C on your list. The great advantage of getting goods with a first-class name is that their value remains, and but little is lost by their re-sale.

W. C. B.—Your question refers to a strictly professional matter, and cannot come within our ken. How can you expect us to regard you as an amateur photographer when you are seeking an appointment as assistant operator? We return your prints by post.

VERITAS.—The original can be done on ordinary paper, but specially prepared (clayed) card is better for the purpose. It is handed to the photographer for reduction. The process could be modified by being executed, as you suggest, in transfer ink, but the result would not be so delicate. There is no distortion involved in the reduction process. All the line drawings which appear in the AMATEUR PHOTOGRAPHER are executed by the process described. You should procure the book upon the subject written by Wilkinson.

NAIRN.—The fault is due to unequal coating, or to leaving part of the plate exposed to the air during the fixing operation.

ANS.—While you are purchasing the lens (No. 4 on your list) you would do well to get a camera of the same makers, and a stand too while you are about it. It is a mistake to get every item from a different maker, and the course as indicated by you would certainly involve you in extra expenses.

W. H. B.—We should prefer No. 2 on your list.

FRANK.—We cannot account for your failure, and should advise you to give portions of one plate different exposures by partially withdrawing the slide of the double back. Hydroquinone may develop chloride lantern plates with a green tone. Sodium sulphite helps to keep the developing solution clear. We prefer not to use it with hydroquinone, but to use caustic potash as the alkali. Always mix fresh developer after developing four or five plates.

A. H. S.—You cannot do better than C. We are, however, surprised to learn of your failure with the lens which you have, and should advise you to send it back to the makers, who would certainly exchange it for another if your complaints are well founded.

CARRIG.—The lantern slides sent are lacking in vigour, and for this reason would not look well when

projected by the lantern. The slides should be furnished with cut-out paper mounts, to separate the cover-glass from the photograph. You would do well to study "The Book of the Lantern," to be obtained of our publishers. We return slides by post.

G. B.—The price of the "Home Portraiture" Special Number will be 1s. The advertisement pages are numbered in small Roman figures.

Miss B.—Your negative is hopelessly under-exposed, and therefore useless. The developer which does not stain the hands is ferrous oxalate, but it does not give such latitude in use as pyro.

L. S.—You are sure to find 1 a good lens. The 5 by 4 you mention as working with shutter is by a good maker; both are reliable. We think highly of the shutter. We know nothing of the combined toning and fixing bath you mention, and should not recommend you to use any combined bath. If this reply is not sufficiently clear, write us again and we will reply by letter.

G.—The portrait you send is most creditable; we fear, perhaps, your negative may be rather fogged. The face is hardly sharp enough to please us; perhaps the negative will stand printing out a little more. Cannot recommend you to employ a professional retoucher, as in all probability he will "improve" it beyond recognition. Print returned. Shall be very pleased to see more of your work.

T. STANWAY.—Had written the par, but held subject to receipt of letter from you.

L. W. D. MAIR, M.B.—Sorry that the reply was unintelligible. A is perhaps the most practical. The others are much more expensive, but of them we should favour B. For the purpose you mention we think you would have no difficulty in using A.

Monthly Competition.

We have received prints from the following:—

Title of Print.	Name of Sender.
Church Avenue, Careston	W. O. Adamson
Arundel Lake	A. R. Dresser
Bynsford, Kent	J. K. Taylor
Farnon on the Dee	W. H. Scott
On the Gavy, Devon	E. P. Vulliamy
The Wye, Glasbury	E. J. Jackson
View in Surrey	E. Enoch
Glenariff, co. Kerry	W. H. Smedley
A Glade in the New Forest	J. G. Jones
Miller Bridge, Ambleside	J. R. Roddick
In the Garden, Hill Foot	J. L. Snelgrove
An Autumn Evening	F. S. James
The End of a South Devon Lane	G. K. Trench
Moonlight off Westward Ho!	G. T. Bruce
A "Bit" in Battersea Park	G. T. Zimmer
Betchworth Mill	F. Dowsett
Scarborough Harbour	C. E. Cowper
Ford End, near Chelmsford	G. B. Bisat
A Northumberland Lane	T. Howlett
View on the Don, Sprotbrough, Doncaster	G. Smith
Wood Waggoners	J. J. Rix
The Cherwell Mesopotamia, Oxford	J. Tims
Where Three Counties Meet, Haslemere	J. Harriman
Roxley Bridge, Chessington, Surrey	Miss B. L. Slight
Henley-on-Thames in Time of a Flood	H. Tonkin
A Moonlit Sea	W. J. Battell
Newlyn	Miss E. Portal
Within Sound of the Sea	J. T. Belding
The North Tyne	E. B. Wain
Belagha on the Bure, Norfolk	G. Tucker
At Conway	H. Edwards
Mansbridge, near Southampton	T. B. Judson
Swanbourne Lake, Arundel Park, Sussex	C. C. Cole
Shipley Glen	F. G. Smart
Evening: Is Father Coming?	T. W. Millburn
The Harbour, St. Ives, Cornwall	P. E. Lyne
Valley with Running Water	W. T. Wright
At Belton	D. D. Munro
Bound for the Isle of Man	F. S. Taylor
A Highland Corrie	A. H. Moore
The Avon	F. C. Peters
Henley-on-Thames	G. H. Brown
The Stroud Canal at Ealingdon	W. H. Armitage
Ruins of Sherborne Castle, Dorset	A. E. Methold
Lough Derg	W. Frew, F.C.S.
Northbourne Brooks	H. Brown
Ochterlyne House and Loch, Perthshire	W. A. J. Croke
Hoar Frost	H. J. Reeves
Arundel, Sussex	
The Decayed Barn	

The Gairn Ferry	D. Wardrop
Entering Lowestoft Harbour in a Calm	A. M. Smith
An Old Roman Castle	R. Maclean
View in Terrace Gardens, Richmond	A. C. Hunter
The Thames, Richmond	E. H. Jeffrey
A Woodland Scene, Leigh Woods, Clifton, Bristol	A. F. Kerry, B.A.
View in Hawarden Park	J. L. Mackrell
View from Templeport Rectory, co. Cavan	Rev. J. Rawlins
Llanberis, Mid-Winter	Miss Hands

Lantern Slide Competition.

In the above Competition we have received lantern slides from the following ladies and gentlemen:—

A. H. Webling	Hove, Brighton
F. W. Stow	Bedale, Yorkshire
A. F. Kerry, B.A.	Oxford
S. Francis Clarke	Louth Lincolnshire
W. J. Farthing	Bowden
K. L. Reynolds	London, N.W.
H. W. Bloomfield	Norwood, Surrey
W. T. Wright	Bootle, Liverpool
A. R. Dresser	Bexley, Kent
H. H. Hammond	Southsea
H. Day, M.D.	Southbridge, Kent
E. Beck	Sheffield
R. Atkins, M.D.	Waterford
D. Wardrop	Portsmouth
W. Frew	Dundee
J. A. Sinclair	Bootle, Liverpool
F. Howlett	Westbourne Park
A. O. Pemberton	Neasdon, N.W.
F. C. Kellow	South Hampstead
J. E. Kellow	South Hampstead
J. C. Austin	Maidstone
G. Bingley	Leeds
W. H. Bailey	Cookham, Berks
F. W. Muncey	Kilburn
J. Shakespeare	Derbyshire
R. Leventhorpe	Gosport
A. Brooker	Hastings
J. Carpenter	Clapton
A. Watson	Glasgow
T. W. Derrington	Wolverhampton
H. K. Bridger	London
A. H. Short	Acton
F. J. T. Walford	London
E. M. Turnstall	Liverpool
H. Shimwell	Birmingham
A. Cornell	Tonbridge
W. Milburn	Sunderland
J. Minn	Oxford
C. A. Brightman	Bristol
J. H. Avery	London
W. E. Galloway	Gateshead-on-Tyne
A. Pinheiro	Cardiff
J. C. H. Smith	Earl's Court
F. G. Pierpoint	Leicester
E. W. Smith	Bromley, Kent
R. C. Macleod	Maywards Heath
H. L. Bridger	Hampton, Mid.
E. G. Lee	Birmingham
W. Walker	London, N.
J. O. Arnold	Sheffield
W. L. Fletcher	Workington, Cumberland
E. Deacon	Ramsgate
D. G. Gordon	Anerley, S.E.
P. J. Cooper	Darlington
C. B. Palmer	Dulwich, S.E.
G. Kilburn	Dewsbury
R. J. Orrell	Blackburn
J. W. Wade	Manchester
H. Little	East Twickenham

Prize Tour Competition.

In the above competition we have received the following entries:—

W. McLean Forbes	New South Wales
Miss Griffith	Littlethorpe
W. W. Whittard	Cheltenham
R. J. Shields	Mexboro
W. L. Howe	Beccles
W. B. Windeles	Long Ditton
Mrs. Co'e	Lewes
J. T. Black	Corstorphine
F. Anyon	Liverpool
A. G. E. Newland	Upper Burmah
L. W. Tindal	Newton Abbott
Lumley Cator	London
Capt. Brotherton	Calleroats
R. Tindall	Leighton Buzzard
G. E. Galbraith	Stirling

Sale and Exchange.

RULES.—Forpence for twelve words or less, and a penny for every additional three words, must be enclosed with each advertisement, together with the name and address of the sender, which must be paid for, and sent to Hazell, Watson, and Viney, Ltd., 1, Creed Lane, Ludgate Hill. Halfpenny stamps preferred. A single figure, or group of figures undivided by letter, space, stop, or two counts as one word; compound words count as two words.

DEPOSITS.

Deposits for goods to be forwarded on approval may be made with our Publishers, who will hold the amounts deposited until they are satisfied that the transaction has been executed to the satisfaction of both parties. Cheques and Post Office Orders should be made payable to Hazell, Watson, and Viney, Ltd. A nominal charge 1s. is made of whether a sale is effected or not.

N.B.—Trade Advertisements cannot, under any circumstances, be inserted in this column. Such advertisements can be inserted elsewhere at the Trade Scale, which may be obtained on application to Parry and Crawford, 1, Creed Lane, Ludgate Hill, London, E.C.

"Amateur Photographer," vols. ii. to ix., complete including Specials, bound in cloth; also loose numbers of vol. x.—Offers to Sinclair, Herald Office, Glasgow.

AMATEUR PHOTOGRAPHER, 1888, 1889, six missing; what offers?—Tewkesbury, York Road, Eastbourne.

Apparatus.—10 by 8 Steinheil photographic lens, cost 55 dol., in Philadelphia, £14 10s.; half-plate (Horne and Thornthwaite, London) portrait lens, £2 10s.; 10 by 8 portable mahogany camera, with carriers, complete, £2 10s.; half-plate portable folding camera, with Lancaster's instantaneous shutter and ash stand, £2 5s.; quarter-plate lens, £1; money tester, for gold or silver, 5s.; 12-pill machine, 7s. 6d.—Apply to Mr. Robinson, 32, St. James's Road, Hastings.

Four porcelain dishes, 12 by 10 to 15 by 12, 7s. 6d. the lot. Four whole-plate and two 10 by 8 printing frames, 7s. 6d. Two quarter and two half grooved plate boxes, each holds 50, 7s. 6d. the lot.—T. Hall, 110, Ulleswater Road, Lancaster.

Backgrounds.—Charming scenic backgrounds, 25s.; or exchange half-plate set.—2, Peter's Street, Dereham Road, Norwich.

Background and Burnisher.—Pretty landscape background, 7 ft. 6 in. by 6 ft. 6 in., on linen, 18s.; also whole-plate burnisher, with atmospheric burner, 20s.—3, Bellevue Terrace, Southsea.

Bicycle.—Exchange 52 in. No. 1 Rudge bicycle, ball bearings throughout, with K.R. lamp, for photographic outfit, including half-plate double-extension conical leather bellows camera, with R.R. lens.—Apply, A. C. Beilby, Roundhay Park, Roundhay, Leeds.

1890 Diamond Safety bicycle; list £15 15s.; with extras, £7 7s.—2, Peter's Street, Dereham Road, Norwich.

Cameras.—For sale, a Luzo hand-camera, to take 100 negatives, new; price £3 3s.—G. Tatham, East Molesey Park, Surrey.

Whole-plate camera, strong, all movements, four Blair's feather-weight slides, also adapter for 12 by 9 and three slides; cash 90s.—Jenkins, Fern Bank, Gloucester.

Rough's patent camera, half-plate, three double dark-slides, and canvas case to contain the lot, camera has double swing and reversing back, perfect condition; price £4 lowest.—Sydney Miller, 23, Highbury Grove, Islington, London.

Camera and Lens.—7½ by 5 reversible mahogany bellows-body camera and double slide with R.R. lens, all equal to new; £3; approval; deposit.—Sunderland, Smethwick.

Camera, Shutter, etc.—5 by 4 camera (by Meagher), three double slides, leather case, time shutter (by Moore), and brass tripod; £3.—Calam, 18, Park Lane, Leeds.

Cripper.—A Cripper, by Marriott and Cooper, geared 60 ins.; £10.—G. D., 6, Richmond Villas, Middle Lane, Hornsey.

Hand Camera.—First-class hand-camera, with Ray's 5 by 4 lens, new last spring; £7 7s.—Can be seen at J. Swift and Sons, 81, Tottenham Court Road, W.

Lantern.—Optimus lantern, 35s., cost 45s.; Taylor's half-plate lens, 17s. 6d.—No. 6226, at Goy's, 54, Lime Street.

Lenses.—A good half-plate lens and stops; 30s.; open to offer.—B. Lillywhite, 21, Mare St., Hackney, London, N.E.

7 by 5 Burscough lens (Perken and Rayment's), working f/6, new last December; cash £3 15s. 6d.—T. A. Blake, 99, Edinburgh Road, Liverpool.

Half-plate Lancaster's instantaneous lens, with Iris diaphragm and patent shutter, new last year, 20s., bargain; doublet lens, quarter-plate, 5s.—Wm. Trench, Church Street, Kidderminster.

R.R. lens (by Wray), back focus 8 ins., equivalent focus 8½ ins., full aperture f/8; U.S. No. 4, to cover 8½ by 5, only used a few times, also Kershaw shutter to fit the above, new; £3 5s.—E., Heath, Leighton Buzzard.

Lens and Tripod.—For sale, half-plate lens (by

Lancaster), metal instantaneous shutter, tripod in leather case, and tripod top; the lot £1.—Atkinson, 20, Linden Road, Dewsbury Road, Leeds.

Negatives.—Foreign views, and sets of lantern negatives, 4s. per dozen; sample 7d.—41, Trafalgar Road, Old Kent Road.

Sets.—Lancaster's 1889 half-plate Instantograph camera, double slide, tripod, and rapid rectilinear lens, *f*/8, with set of Waterhouse stops, quite new; bargain, 72s. 6d.—John Slade, Slad Road, Stroud, Glos.

Half-plate camera, two double dark-slides, and tripod, cheap.—Jones, Enfield House, Uffculme, Devon.

An 8 by 5 American landscape camera, has swing-back, rising front, etc., takes pictures either horizontal or vertical, three double slides, solid leather case, portable tripod stand, and either a Ross' symmetrical lens or a rapid Euryscope, working at *f*/6, all in fine order; a bargain, £7 10s.—H. Taggart, jun., Tontine House, Glasgow.

Camera, Lancaster's half-plate Instantograph 1889, guaranteed very finest order, all latest movements and improvements, leather bellows, long extension, reversing back, rapid rectilinear lens, Waterhouse stops, moveable hood, slide, carrier, and folding tripod; £3 15s.; approval.—C. Carlous, 74, Hercules Buildings, Westminster Bridge Road.

Hand-camera, quarter-plate, fitted with Optimus R.R. lens, Newman's shutter, six double slides, two finders, etc.; £5 5s.—H. S., 75, Loampit Vale, Lewisham, S.E.

Lancaster's 1886 Instantograph camera, 2 double dark-slides, and tripod stand, in case, complete, 40s.; also eight vols. AMATEUR PHOTOGRAPHER, bound; what offers?—Photo, 8, Cooham Street, Gravesend.

Sands and Hunter's Exhibition camera, three slides for 5 by 4 and quarter-plate, and case, 60s.; Watson's four-fold tripod, 15s.; Wray's R.R. lens, Iris, new and perfect, 52s. 6d.—Bell, 4, Milton Terrace, Belfast.

Whole-plate long-focus camera, swing and reversing back, three double slides, £3 7s. 6d.; double-blind shutter, 2 in. aperture, 7s. 6d.—G. Constable, Market Street, Lewes.

Quarter-plate box camera and good portrait lens (by Murrell), with dark-slide, complete; 7s. 6d.—Spiller, Hillside, Hampstead Hill Gardens, N.W.

Instantograph, latest pattern, whole-plate camera, lens, instantaneous shutter, dark-slide, and tripod, good condition, only £4 10s.; new solid leather look-up case, cost 35s., price 18s.—J. W. C., 152, Southampton Row, W.C.

Smith's Simplissimus camera, half-plate, and three double slides, Optimus rectilinear lens, 7 by 5, and three-fold stand, all perfect; price £5 5s.—T. Hall, Ulleswater Road, Lancaster.

Lancaster's Instantograph quarter-plate camera, latest improvements, three double dark-slides, tripod, Ross R.R. lens, instantaneous shutter, and all appertaining to dark-room, viz., printing frames, developing and toning dishes, chemicals, scales, plates, negatives of Scarborough, etc., etc.; the lot £5; owner giving up photography.—A. H. Goldsmith, 29, Marine Parade, Worthing.

Quarter-plate London Stereoscopic Company's camera, lens, two double dark-slides, folding tripod, and case; price 30s.—A. Goswell, Wokingham, Berks.

Lancaster's half-plate Instantograph, 1887 pattern, rack lens, shutter, wide-angle lens, three double slides with tins, carrier, two-fold stand, and leather case, with straps, pads, and focussing cloth; 75s.;

approval.—R. Edwards, 140, York Street, Hulme, Manchester.

Lancaster's International half camera, lens, three dark-slides, leather case; cost £7 10s.; will take £5 10s., or offers.—J. H. L., 17, Holmedale Terrace, Harrogate.

Lancaster's quarter-plate International camera, rapid rectilinear lens, with Waterhouse stops, instantaneous shutter, folding tripod, two double dark-slides, waterproof case, washing rack and tank, etc., nearly new, genuine set; price £3 10s. Wanted, half-plate.—Swain, 28, New King Street, Bath.

Slides, etc.—Six Turnbull's film slides, very compact, equal new, cost 35s., accept 22s. 6d.; six half-plate ditto, cost 54s., accept 37s. 6d.; Pumphrey's telescopic stand, whole-plate, folds 12 ins., very rigid, 15s.; quarter-plate camera, four double slides, stand, rectilinear lens and case, 37s. 6d.—P., 82, Preston Road, Blackburn.

Tripod.—Tripod, rigid, light; exchange for half-plate rectilinear lens, about 8 in. focus.—Beckett, 6, The Grove, Hackney.

WANTED.

Backgrounds.—Interior and exterior background, cheap for cash.—Jones, Enfield House, Uffculme, Devon.

Cameras.—Whole-plate or half-plate Instantograph, 1889 pattern.—Fox, The College, Dover.

Lancaster's Mulum-in-Parvo enlarging camera.—Edwyn Tart, Marden Vicarage, Hereford.

Set.—Best light long-extension half-plate camera, with turn-table preferred, and three slides; state weight of camera, and particulars.—Bell, 4, Milton Terrace, Belfast.

Stereo Views.—Stereoscopic views, British and foreign.—Neill, 8, Chelsea Road, Walton, Liverpool.

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"AMATEUR PHOTOGRAPHER" MONTHLY COMPETITIVE PAPERS, 1890.

THE following Prizes are offered for competition every month:—

Three Prizes of £1 1 0 each.
Three Prizes of 0 10 6 each.
And Three Certificates.

The Papers must not exceed 1,000 words; and those which are awarded Prizes will be published in the AMATEUR PHOTOGRAPHER; and others will be selected, and will be arranged for publication in the

"AMATEUR PHOTOGRAPHER'S ANNUAL."

Contributions are to be upon the subjects as list given below; and in order to make the matter more interesting, it is requested that each competitor shall give his personal experiences. It is intended that each subject shall be written up by a specialist for the ANNUAL, and the latest information given. All MSS. must be received not later than the

28TH OF EACH MONTH.

	Subjects.
28th February	Apparatus.
28th March	Optics.
28th April	Action of Light.
28th May	Exposure.
28th June	Plates and Films: Their Development and After Treatment.
28th July	Printing, Toning, Mounting, and Finishing.
28th August	Artistic Effect and Composition.
28th September	Outdoor Instantaneous and General Photography.

All MSS. to be addressed to the Editors, "Amateur Photographer," 1, Creed Lane, Ludgate Hill, London E.C.

THE FORTH BRIDGE.

In view of the interest taken by all engineers, students, and others in the Forth Bridge as a triumph of engineering skill, the proprietors of the AMATEUR PHOTOGRAPHER have pleasure in offering the following Prizes for the Best and Second Best Set of Four Photographs:—

First Prize Silver Medal and £1 1s. 0d.
Second Prize Bronze Medal and 10s. 6d.

Photographs must be sent in on or before Monday, the 10th of March. This date will permit of photographs of the Opening Ceremony, which is to be performed by H.R.H. the Prince of Wales on the 4th of March.

The proprietors will require the use of the negatives of the prize photographs. If any competitors are willing to leave their prints in the hands of the Editors of the AMATEUR PHOTOGRAPHER, they will have pleasure in circulating them amongst the photographic societies.

All Competitions to be addressed:—"Forth Bridge Competition," The Editors, Amateur Photographer, 1, Creed Lane, Ludgate Hill, London, E.C.

"AMATEUR PHOTOGRAPHER" MONTHLY PHOTOGRAPHIC COMPETITIONS.

THE Proprietors of the AMATEUR PHOTOGRAPHER will offer, Monthly, two prizes, consisting of a

SILVER AND A BRONZE MEDAL (WITH RIBBON AND CLASP)

for the best and second-best photographs sent in to each of their Monthly Competitions. The subject of the Competitions will be as follows:—

LANDSCAPE OR SEASCAPE	Feb. 14 ... June 14.
LANDSCAPE WITH FIGURE	Mar. 14 ... July 14.
GENRE OR FIGURE STUDY	April 14 ... Aug. 14.
INSTANTANEOUS PHOTOGRAPHS, ANIMALS, ETC.	May 14 ... Sept. 14.

Only one print is to be sent in; the negative of the prize pictures shall be at the service of the Proprietors, and all the prints sent in shall become the property of the Proprietors.

In addition to the Medals being given, the prize photographs will be reproduced in the AMATEUR PHOTOGRAPHER.

All photographs for any of the above competitions must be received by the

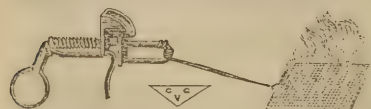
FOURTEENTH DAY OF THE FOLLOWING MONTH,

and as received will be acknowledged in the columns of the AMATEUR PHOTOGRAPHER.

Competitive prints are available for exhibition before Photographic Societies after the 1st of each month.

The prints will all be numbered, and when sent to societies, will be accompanied by a book for criticism. It is hoped that the President or other official will give a note stating the general opinion of the members of the Society.

Entry forms on receipt of stamped addressed envelope.



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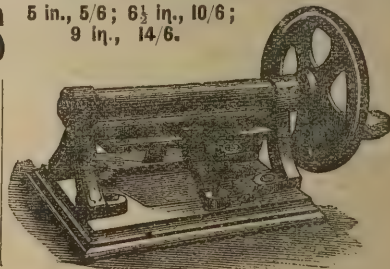
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THE AMATEUR PHOTOGRAPHER

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TELEPHONE
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Offices: 1, Creed Lane, Ludgate Hill, London, E.C.

TELEGRAPHIC ADDRESS,
"VINEY, LONDON."

VOL. XI. No. 282.]

FRIDAY, FEBRUARY 28, 1890.

[PRICE TWOPENCE.]

✻ OUR VIEWS. ✻

"To hold as 'twere the mirror up to nature."—*Shakespeare.*

WE have much pleasure in announcing that the following awards have been made by the Judges who kindly undertook the very arduous task of judging the slides entered for the AMATEUR PHOTOGRAPHER Lantern Slide Competition:—

AWARD.

AMATEUR PHOTOGRAPHER Gold Medal (for the four most artistic pictures):—

J. E. AUSTIN (Maidstone).

Class I.—Gelatine Process.

First Prize—A. R. DRESSER (Seascapes).

Second „ H. L. REYNOLDS (Animals).

Third „ GODFREY BINGLEY (Landscape).

Class II.—Collodion Process.

* First Prize—Withheld.

Second „ H. LITTLE (Animals).

Third „ F. MACKENZIE (Landscape).

We, the undersigned, having satisfied ourselves that the conditions have been complied with, except as noted, declare the prizes to have been duly awarded by us.

Signed { J. GALE, F.R.I.B.A.
CHAS. HUSSEY.
LYONEL CLARK, C.E.

Feb. 21st, 1890.

The whole of the slides were examined by transmitted light, and by far the greater number of them, so high is the standard of excellence, passed through the lantern. We would add that the work done by the Judges was of a very heavy character, necessitating their very close attention and attendance at our offices for upwards of eight hours, with only a very brief interval. We cannot in this issue comment upon the slides, but shall hope to do so at an early date. They are of a far higher quality than those received last year, and the exhibition of those selected, at the Crystal Palace on the 14th and 15th prox., will be a rich treat for all interested in lantern slides.

* In this case a competitor, who in the opinion of the Judges ranked first, had entered slides for this class, which upon examination proved to have been made by gelatine process. Consequently the prize was withheld.

LAST evening (Thursday), arrangements were made to hold a meeting at Exeter, in order to form a photographic society for that city. We shall doubtless receive a report, which will be published in our next issue.

* * * *

WE are asked to notify that in connection with an Industrial and Art Exhibition to be opened on the 9th of April, at Alton, there will be a class for photographs, having two divisions: (1) Landscape, (2) Studio subjects. Further particulars may be had from the Secretaries, Miss Pechell and Miss Burnet, Alton, Hants.

* * * *

WE have received the following notice from the Secretary of the Camera Club in regard to the arrangements already made for the 1890 Conference:—

The Conference, as already announced, will take place at the Society of Arts, on Thursday and Friday, March 20th and 21st, under the presidency of Capt. Abney.

Amongst the papers to be read and discussed will be the following:—

"The Art of Drawing and Photography," by Mr. A. M. Rossi.

"Photography by the Light of the Electric Spark," by Lord Rayleigh.

"The Latent Image," by Mr. C. H. Bothamley.

"Limitations in the Treatment of Subjects by Focus," by Mr. T. R. Dallmeyer.

"Collotype and Photo-Etching," with practical illustrations, by Mr. W. T. Wilkinson; and other papers, by the President, Mr. Lyonel Clarke, and others.

It is further proposed to bring forward in as complete a manner as possible the subject of photographic exhibitions and their regulations.

The exhibition of apparatus will be as usual in the Library of the Society of Arts.

All photographers or others interested in the subjects under discussion are invited to be present.

* * * *

IT is our practice now to refrain from any criticism or comments upon the working of the Camera Club, which is, of course, a private concern, but we understand that very active steps are being taken to provide new premises, that the number of members has increased considerably, that the

finances of the Club are in a very healthy state, there being a considerable invested fund, and that the Directors were able to recommend at the last meeting the payment of a dividend at the rate of 5 per cent. per annum upon the capital of the Camera Club Company, Limited.

* * * *

THE Liverpool Amateur Photographic Association are having a busy season. The exhibition of Mr. H. P. Robinson's photographs closes to-day. Over 1,200 visitors have derived pleasure and instruction from the inspection of the photographs which have won such golden opinions all over the world. During March we understand that Mr. Harry Tolley's photographs will be on show in the rooms of the Association.

* * * *

WE are delighted to hear that arrangements are in active preparation for placing before the public the particulars of the second Liverpool Photographic Exhibition. This exhibition will be on a much more extensive scale than the one held in 1887, which, as is well known, we always consider to have been the premier photographic exhibition. In a week or two we shall have more definite information to put before our readers. The Association will be fortunate if they again secure the courteous and energetic services of Mr. Thos. Mayne as Honorary Secretary.

* * * *

Last week the Council of the Photographic Convention of the United Kingdom held their first meeting this year. We understand that all matters appertaining to last year's meeting have been cleared up, and that, notwithstanding the enormous expenses attending the holding of the meeting in London, the guarantors were only called upon for a few pounds. This year's meeting, which will be held at Chester, under the presidency of Mr. C. H. Bothamley, F.I.C., F.C.S., will open on the 23rd of June, and continue up to and inclusive of the 28th of June. A *conversazione* will be held on the evening of the 23rd, when the President will deliver his address, followed by an exhibition of lantern slides. Excursions will be arranged to Moreton Old Hall, Conway, Bettws-y-Coed, Carnarvon, Hawarden, Llangollen, etc., and a trip up the Mersey to witness the regatta. Papers will be read and discussed every evening. There will be an exhibition of apparatus, etc., and there will be *no charge for space*. The annual dinner will take place on the evening of the 27th. The local committee is a strong one, and there is every reason to anticipate a well-attended and successful meeting.

* * * *

WE are very anxious to have a good competition for the prizes offered for photographs of the Forth Bridge, and would remind our subscribers, especially those "north of the Border" that all competing prints must be sent us not later than the 10th of March.

* * * *

ALL photographs for the Prize Tour Competition, framed or unframed, must be in our hands to-morrow (Saturday).

* * * *

It is proposed to form a photographic club in connection with the Central Y.M.C.A., Exeter Hall. The club, we understand, will be under competent direction. Ample space in the basement of the building will be devoted to

dark-rooms, etc., which will be available at all hours in the day. Applications for membership to be addressed to the Secretary, Y.M.C.A., at Exeter Hall.

* * * *

THE Photographic Society of Japan is fast becoming a very active centre for celestial and other photographers. The following resolution has been passed:—"That this Society discountenance, by all means in its power, the practice of copying the photographs of other artists for sale, and that, if the practice be continued, the Society take into consideration the desirability of making a by-law whereby such practice shall *ipso facto* exclude from membership of the Society."

At the same meeting a member exhibited a camera to take direct photographs 38 by 30 ins. A printing frame has also been made for printing on paper, measuring 4 ft. 6 ins. by 3 ft. 6 ins. Several other items of news show the Society to be fully alive to the advances being made in photography. Mr. W. K. Burton is a very active member, and gave his experience of "Eikonogen" as a developer at the last meeting.

* * * *

BEGINNERS' DIFFICULTIES.

MANY are the inquiries which reach us from aspirants to photographic fame with reference to remedies to heal their faulty negatives. It would almost seem that the text-books were to them sealed volumes, for the greater proportion of the difficulties which they tell us they have met with have been again and again descanted upon by those writers who have devoted their attention to photographic literature. Every possible fault has been dealt with in detail, and the possible pitfalls have often been pointed out, so that he who runs may read. But it is, unfortunately, the case that, with the majority, running is a far more congenial occupation than reading, and this is true, not only of amateur photographers, but of the public at large. It is certain that there is a large class of persons who never even read a newspaper, for upon no other hypothesis can we account for the behaviour of those curiously constituted minds which are still taken in with the "confidence trick," and other well-known nets which are daily spread to entrap the foolish.

The beginner in photographic operations can hardly be expected to know all that has been written for his benefit, for the bibliography of the art is now very extensive; but he should at least make himself master of one text-book, so that he need not be quite at sea when his first difficulty arises. We are disposed to think that he is troubled rather with a plethora of formulæ than a want of any, and that his difficulty lies in picking out one which will best serve his purpose for the time being.

The first problem which he is called upon to solve is the correct exposure for subjects which greatly vary in the amount of illumination which they possess. Cunningly devised tables help him but little, and necessitate calculations which are apt to draw his attention away from other important details. Experience is a far better teacher, and with practice the earnest worker gradually learns how to estimate the exposure of the plate by the appearance of the image upon the ground-glass focussing screen of the camera. This power cannot be gained without observation and practice, but when the knowledge has once been acquired, the operator will seldom make an error in his exposure.

Over-exposure is a far more common error than insuffi-

cient exposure; and it is fortunate that this is the case, for it can be remedied either during or after development. Under-exposure, on the other hand, cannot be compensated for, and when this fault is apparent in a negative, we need never hope to gain a decent print from it. If over-exposure is indicated by the image developing quickly all over the plate, a ten per cent. solution of sodic citrate swilled over the film, the developing solution having been quickly poured off first, will at once check the action, and development can be recommenced with caution. A plate so checked and redeveloped will often yield an excellent negative. If, however, the developing action be allowed to go on, a very thin negative, but one which is generally full of detail, is the result, and our only hope under such circumstances will rest upon some method of intensification.

In such a difficulty the beginner turns to his collection of published formulæ, and finds such a number of recipes which are warranted to cure the evil, that he feels somewhat like the man with a cold, who is told what to do for it by anxious friends, all suggesting something, but no two agreeing in what that particular something should be. The mercury method seems to him to be perhaps the easiest, but unless the film be very thin, that method of treatment will often discolour the image to such an extent that it is no longer printable. This discolouration is more common after pyro development than after iron development, but this intensifier is at the best uncertain. We would advise the beginner to try another method which is more effective, and which generally works well with all plates. We allude to the uranium method, a brief description of which is as follows: After the plate is fixed, wash it well, and place it for two or three minutes in a solution of uranium nitrate, ten grains to the ounce of water. After draining the plate, but without washing it, immerse in a solution of potassium ferricyanide of the same strength. In this latter solution the image will quickly change colour, and it should be lifted out of the liquid once or twice in order that this change may be seen, and not allowed to go too far. A very thorough washing must follow, and after drying the film, it should be varnished.

Another common fault which the early negatives of an amateur are apt to exhibit is undue density, due, not to over or under exposure, but to over-development. The best reducer for this state of things is that originally published by Farmer, in which potassium ferricyanide is once more the useful agent. The chief difficulty in using this formula is in its very energetic action, and it may be guarded against by using very weak solutions of both the potassium salt, and of the hypo which is employed with it. The negative may be transferred from one solution to the other until the right amount of reduction has been attained, when the plate must be immediately placed under the tap to receive a thorough washing. This reducer is also most valuable in other ways. For instance, a lantern-slide with a dirty sky—and with what dirty skies some amateurs are troubled!—will quickly clear in the solution. Another employment for it is not so generally known: when from age a plate develops with an iridescent band round the edge, which is generally yellow by transmitted light, and thus interferes with its good printing quality, the fault instantly disappears after immersion in the ferricyanide solution, provided that the plate is taken direct from the hypo bath before being thus treated.

Letters to the Editors.

DISCS OF GLASS AS CONDENSERS.

SIRS,—I have also been looking for answers to "Treble X's" query, No. 3370, in the AMATEUR PHOTOGRAPHER of January 17th. No answer appearing, and the letter relative to Mr. Grove's questions, under the above heading, in issue of February 14th, being beside the point, though interesting as an experiment in another direction, I venture to offer my mite of information, having experimented similarly with a manufactured condenser.

My experience differs from that of Mr. Groves in that the illumination through my condenser is satisfactorily diffused, but agrees with his in that I found the focus so long, viz., 3 ft. 4 ins., that the necessary exposure, with a very powerful mineral-oil lamp (circular wick 2 ins. in diameter) was about forty-five minutes. With a full aperture $f/6$, enlarging to three diameters, this was, of course, entirely unsatisfactory, the reason doubtless being that the curvature of the clock faces was not sufficiently convex to obtain the shorter and desirable focussing point for the illuminant.

From my experiments I deduce that—

(1) The form of the glass should be a segment of a sphere of a radius not less than two-thirds of the radius of the sphere from which it was taken.

(2) That the proper position for the illuminant can be found by observation of a light placed behind the constructed lenses, noting the distance at which the form of the illuminating flame is lost by general diffusion of the light.

(3) I found the best method of junction to be marine glue dissolved in ether, painted on the edge of the convex glass (previously ground flat); the convex glass then being laid on a flat square glass slightly larger, it will adhere; the glasses should then be fixed in position rigidly, so that no movement of either was possible, independent of the material used to prevent leakage. Marine glue should then be melted by heat and flowed all round the circumference of the convex glass right up to the wooden frame, and rising a quarter of an inch up the convex glass. No dependence must be placed on the marine glue as a cement to hold the glasses in position, but it can be depended upon to prevent leakages; it is necessary to use the glue dissolved in ether in the first instance, fixing glass to glass, as, if melted marine glue is used, it will be found to cool too quickly before you can work round the edge of the convex glass and are ready to lay it on the flat glass, and the junction is therefore imperfect.

The screen of ground-glass is necessary to use with all condensers, to obtain an even illumination from a lamp, and cannot be dispensed with.

I am using my manufactured condenser fixed in the wall of my dark-room, my dark-room being built inside another room, and having focussed by hanging a lamp close to the condenser outside, I take the lamp away and burn magnesium ribbon 3 ft. back, by hand arrangement, and find forty-five seconds' exposure sufficient, enlarging to three diameters. Enlarging from $7\frac{1}{2}$ by 5 plates I have to stop down, and the exposure is, of course, correspondingly increased; but unsatisfactory as the present arrangement is on account of the length of exposures necessary, I get an even illumination which I failed to make at all certain of previously, when I enlarged by using the magnesium lamp close to a piece of opal glass in the wall of my dark-room, moving the lamp about, which I have not to do now; and the length of exposure is about the same.

Hoping these experiences may be of some little use, I am, yours faithfully,

HENRY E. WALTERS
(Commander R.N.)

SIRS,—I have noticed several letters in your columns expressing the difficulty in making condensers from clock glasses. Having found no difficulty myself, I will endeavour to help those who desire aid. They must first procure the proper kind of glasses, which are barometer, and not clock, glasses; these latter are quite the wrong shape. Also get the brass bezels in which the glasses are fixed (both these can be bought from C. Bannister, 47, Great Hampton Street, Birmingham, costing about one shilling a pair or a trifle more). To mount, fix the convex glass in bezel with a cement (I use the following: two parts powdered litharge, one part fine red lead, mix three parts boiled linseed oil with one

part copal varnish, stir the powder into the liquid until it has the consistency of a stiff dough), apply the cement to bezel, and press glass in it; get a piece of board, and cut a round hole large enough to allow the bezel to go partly through and rest on the flat rim, finding a bearing all round and keeping the bezel in shape; lay board on supports so that glass is quite free from all things under. Get glass level, and fill carefully, not too full, just enough to exclude all air bubbles when flat glass is placed on, which when done finish cementing round flat glass, and your condenser will be complete; leave in the horizontal position until cement is quite dry and hard; screw the bezels to boards and adjust distance with strips top and bottom. Shall be pleased to aid further if desired.

STRADIVARI.

* * * *

"SUN ARTISTS."

SIRS,—My attention has been called to a paragraph reviewing the second number of the above-named serial, which appeared under the head of "Our Views," in your current issue, and in which the following words occur: "We are sure that Mr. H. P. Robinson will not be at all gratified to find that the much-vaunted photogravure has only yielded him prints which are but a shade better than those to be pulled from any type-block."

I beg you will give the enclosed letter from Mr. H. P. Robinson, together with this communication, an equal publicity. I may add, for your information, that so far as technical and artistic excellence is concerned, the whole edition, both of prints and proofs, shows a remarkable uniformity.

In order to neutralise as far as possible the false impression you have put in circulation, I am sending a copy of this letter to the leading photographic papers.—I am, sir, yours obediently,
February 22nd, 1890. W. A. BOORD (Hon. Sec.)

(COPY.)

Winwood, Tunbridge Wells,
January 29th, 1890.

Dear Mr. Boord,—I have received the proofs of *Sun Artists*, No. 2, to sign, and cannot refrain from writing at once to say how much I approve of the way in which my pictures have been reproduced. I expected much, and am not disappointed.—Yours very truly,
H. P. ROBINSON.

[NOTE.—In our comments we wrote of the plates as we found them in the copy which was sent us, we supposed, for review and criticism, not flattery. We have not seen the "proofs" which Mr. Robinson signed, and cannot therefore express any opinion upon them.—Eds: AM: PHOT:]

* * * *

HYDROQUINONE AND INTENSIFICATION.

SIRS,—If Mr. A. E. Venn will refer back to your paper to about fourteen or sixteen months back, he will find a letter from me re hydroquinone and intensification, as I have used quinone for intensification these two years back, so it is nothing new.—Yours truly,
A. R. DRESSER.

February 23rd, 1890.

* * * *

ADDITIONS TO LENSES.

SIRS,—I have been using for some years a simple addition to my lenses, the knowledge of which might be of service to fellow amateurs, especially to those whose means are limited. I procured some concave spectacle lenses, uncut, and circular, just as supplied in the first instance to opticians; these cost me then 6d. each. By attaching them singly to the back of quarter-plate achromatic view lenses, I found that I could lengthen the focus at will and cover plates of various sizes. As the achromatism is slightly disturbed, an extension of one-tenth of an inch beyond the visual focus was required, and the resulting pictures were sharply defined and equal to any lens of similar focus; at least, I can say as much of a quarter lens of C. Shepherd and Co.'s make. Many years ago I used to insert in the diaphragm between the lenses of the old-fashioned portrait combinations, a smaller spectacle lens, which lengthened their foci without visible disturbance of achromatism, and it is only in the *English Mechanic* of 21st inst. that I saw Mr. Blackwood, of Beckenham, has patented an achromatic modification of this principle, so far as placing the additional lens between the doublets, and in front of single lenses. The employment of achromatic concaves, etc., is a distinct improvement, and you will observe that my plan with the latter lenses is to place the concave behind and very close to them.

I took with me into Derbyshire, in 1888, my half-plate camera, and mostly used the Shepherd quarter-plate view lens of $4\frac{1}{2}$ inch focus, supplied with a concave lengthening it at will to $8\frac{1}{2}$ inch, as it gave a large angle and excellent definition. I enclose a print from one of the negatives so taken for your inspection; it is a view of the Royal Hotel, at Matlock. I believe the late Mr. Scott Archer, the inventor of the beautiful collodion process, had similar contrivances with lenses. By the by, now that Daguerre is so highly lauded (even by Rev. Ledger, in his admirable astronomical lectures) as the inventor—as if sole—of photography, I regret that our English discoverers are so little thought of and left in the background. Having worked both the calotype and wet collodion processes as they arose, I have a veneration for these gentlemen who discovered and gave us these beautiful processes.—Yours, etc,
WM. LONDON.

February 22nd, 1890.

[NOTE.—The print sent us shows perfect definition and no distortion.—Eds: AM: PHOT:]

* * * *

PHOTOGRAPHY IN INDIA AND BURMA.

SIRS,—As there have been various inquiries lately in your paper about photography in India and Burma, a few notes on this subject may be interesting. They will be too late for people intending to do India this cold weather, but may come in useful at another time.

As to Apparatus.—Most tourists coming out to India only spend the cold weather (say Nov. to Jan.) in the country. The temperature then is not much above that of a good hot summer's day in England; and apparatus which will stand the latter will not be hurt by the Indian climate. For a stay through a hot season or the rains, however, apparatus should be very carefully chosen. I do not believe it is possible to season wood in England so thoroughly that it will not warp or shrink under such varying conditions of temperature as those occurring during a year of an Indian climate. One's reversing back, if it is of the removable order, very probably shrinks, and consequently lies loosely in the clips, instead of fitting tightly; and one's slide-shutters curl up like corkscrews. One need not be afraid of having everything substantial and heavy, as one can always get a coolie to carry a camera all day for a few annas. I would strongly advise a hand-camera as well as the ordinary article. I am just getting one, and wish I had got it before. As to lenses, one which works well in England will work better here, in the brighter and more actinic light. As to tripods, get a good steady one, and of simple construction—weight, as I have said, is no object.

Plates.—I began with Britannias; but I gave them up. I then took to Wratten and Wainwright's, and have used no others since. Only one bad plate have I come across in all that I have used. I find the Ordinary (15) and Instantaneous (19-20) the best. I have used Special Drop-shutter (25), but they are usually a bother to develop, and in the Indian light one can do drop-shutter pictures on the Instantaneous plates with excellent results. I am going to give Ilford's a trial with my hand-camera, as I cannot get Wratten and Wainwright's quarter-plates just now. I have never used films, but have been told they are a trouble to work in hot weather.

Exposure.—Whatever you do, don't let the sun get into your lens. Shade the latter carefully. If you want good light and shade effects, photograph either early or late, but not in the middle of the day. The sun is so nearly vertical at noon that there are no shadows at all, and pictures taken then look flat. I have never photographed in England, but the following notes of exposure may be of use (rapidity of plate by Warnerke's sensitometer):—

Rapidity, 15; time, 8.45 a.m.; subject, well-lighted pagodas; stop, $f/32$; exposure, 30 secs.; result, good.

Rapidity, 15; time, 8 a.m.; subject, brightly lighted wooden house; stop, $f/22$; exposure, 6 secs.; result, very good.

Rapidity, 19-20; time, half-an-hour before sunset; subject, tents under mango trees, fairly lighted; exposure, 4 secs.; stop, $f/16$; result, first-class.

Rapidity, 19-20; time, 10 a.m.; subject, trees with very deep shadows; stop, $f/44$; exposure, 45 secs.; result, somewhat over-exposed.

I usually give the right exposure as near as I can; in doubt, overdo the exposure a little; develop slowly, and watch the plate carefully.

Development.—A common candle is a good light to develop

by, and doesn't fog even a 25 plate, if one puts the candle on the ground to begin with, and develops at first by the light reflected from the ceiling, etc. I carry a ruby lamp, but merely as a guarantee of good faith. I use pyro to develop with, keeping it dry, and have used various alkalis. Ammonia is rather too violent, I think; I have used potass. carbonate alone, and with sulphite, with good results; lately I have been using Beach's potash solution, and am now going to try the ferrocyanide plus carbonate for a change. I only tried once hydroquinone as a developer, and didn't like it; but the subjects of the pictures were not good, and I had no practical experience with the developer. As to operations after development, *I never use an alum bath with Wratten's plates.* I have developed in a temperature of 105° F., and the plates did not frill. Fix in hypo as usual.

Printing.—It is next to impossible to get really good sensitised albumenised paper ready made, I find. I had been reduced to sending my negatives to professionals to print, and began experiments with platino. I started on Pizzighelli. The first lot of paper was splendid, the next execrable. Then I tried cold-bath, but think I must have always over-exposed—results, not good on the whole. Last, I took to hot-bath, with the most excellent results; the paper, two months old, behaved perfectly, and I should strongly advise anyone coming out for a few months to bring a supply from the Platinotype Company, and use that process. I have not tried Aristotype, Clark's or Blanchard's processes, etc.; but I think the drawback of all silver-printing is the difficulty of getting pure water and good paper.

I enclose my name and address at which letters will reach me. If anyone wishes for further information, I shall be happy to supply it as far as possible; but letters posted after May 1st will probably not catch me, as I hope to be leaving for England early in June.—Yours very truly, Z. Q. A.

Upper Burma, Jan. 29, 1890.

* * * *

GAS CYLINDERS.

SIRS,—I was interested in reading your leader on this important subject, and I trust that now the matter is being taken up, we may be able to arrive at the truth as to whether these useful cylinders are perfectly safe or not. You mention that a cylinder exploded with fatal results at Woolwich some years ago. Now, it would be advisable to ascertain in that case, as in all the others, whether the cylinder contained a mixture of oxygen and hydrogen. It seems that in other cases the cause of the explosion is put down to the mixed gases, and not to the simple pressure of the condensed gas.

You throw out the suggestion that probably the oxide of iron in the bottle may have been an initial cause of the explosion. All factors require most careful consideration.

With regard to the testing of cylinders, I was cogitating how this was done when, from a letter in *Photography*, it appears that they are tested by hydraulic pressure! This can scarcely be called a perfectly satisfactory test, as far as the liability of the bottle to sudden explosion is concerned, for, as the writer of the letter points out, water is not a very compressible body, and hence, supposing the cylinder to be weak, the pressure of water from within would not exert anything like the same power as a cylinder full of compressed gas. The water if forced out or let out of a cylinder would not be of much larger volume than in its compressed state. But in the case of gas, the volume of that when liberated would be immense, as compared with the space it occupied in its compressed state. Therefore, surely it is not correct to reason from the hydraulic test, that a cylinder would not explode, but only "rip up," when compressed gas is the motive power within.

If rust has any influence in the matter, then the water test would probably cause its formation in the cylinder.

Would it be a fair illustration to make an experiment in this wise—

Fill a stout bottle with water within half an inch of the top, then insert a good cork, and hammer it in till the bottle bursts. Probably the weakest part of the bottle would pop out without much sound and fury.

For the next experiment fill a bottle one quarter full of hot water, then cork it up and tie it securely down, then put it in a hot oven till something happens. We should hear and see the result, and the pieces would scarcely be few!

If this is sound reasoning, then I think it rests with the gas

companies to test a cylinder with compressed gas till it bursts, and if the cylinder merely rips, we shall be delighted at the result of the experiment. For this test a cylinder of half or a quarter the usual substance would suffice, the only point being that it shall be burst with compressed gas, and the pressure noted. Surely science can suggest a safe method of performing this desirable experiment. Might not the bottle be surrounded by sand, after being put in a wood case, to prevent actual close contact with sand to bottle?

The matter deserves attention, for if an explosion occurred in a lecture room, some people might wish to claim damages for an accident from cylinder company. However, I trust the pressure of public opinion will force the companies to resort to a perfect test, as, no doubt, they are fully desirous of taking every precaution.—Yours truly,

C. HETHTON LEWIS.

February 24th, 1890.

* * * *

THE AMATEUR: WHAT MAY HE DO?

SIRS,—The query 3,482, with the above title, is simply the raising of the old, old question, one which is regularly trotted out each year, and as regularly shelved. Since there is no body or authority to deal with the matter, let amateurs, through the medium of the Press, and by discussion at amateur photographic societies, set the matter at rest, and agree that an amateur photographer is one who practices the art of photography for pleasure, and not for purposes of gain by the sale of his negatives or prints.

An amateur may give photographs for sale at bazaars, but must accept no payment or valuable consideration in lieu of payment for same.

An amateur must not receive out-of-pocket expenses from friends, or otherwise, for the taking of a negative or making prints.

An amateur publishing a book or writing for a periodical, and illustrating it with photographs, shall not forfeit his status by so doing.

An amateur giving lectures, and illustrating his lecture by photographs, shall not forfeit his status by so doing.

An amateur may be a maker of plates, lenses, cameras, or any and every article in connection with photography.

An amateur may hold shares in any limited company having for its object the taking of photographs, or may be a partner in any firm reproducing the work of others for purposes of illustration.

An amateur knowingly competing in a class open to professionals, shall lose his status as such thereby.

An amateur shall not receive money prizes.

A professional photographer having retired from business, shall, after twelve months' retirement, be considered eligible to rank as an amateur.

The term professional shall not apply to professors or teachers at colleges, schools, naval, military, or public institutions.

That the qualifications of an amateur shall be printed on the entry form.—I am, yours truly,

EDWARD J. FEILDEN.

Feb. 24th, 1890.



A LECTURE on "Astronomical Photography" will be given by the Gresham Professor of Astronomy, on March 3rd, at Colchester, under the auspices of the Colchester Camera Club.

FITCH'S IMPROVED XYLONITE FILMS. — We understand that Mr. Fitch, of 34, Angell Road, S.W., has a large sale for these, and that some twelve months since he put on the market his "positive ivory films." We have been favoured with two specimen pictures taken upon them, which are very charming, especially a portrait study. Full particulars are given as to development, either with the ferrous oxalate or hydroquinone developers. These positive films can be procured in three tints—white, blue, and pink.

APPLICATION OF PHOTOGRAPHY TO METEOROLOGY. — The Council of the Royal Meteorological Society have arranged to hold, at 25, Great George Street, Westminster (by permission of the Council of the Institution of Civil Engineers), on March 18th to 21st next, an exhibition of instruments and photographs illustrating the application of photography to meteorology. The Committee will also be glad to show any new meteorological instruments or apparatus invented, or first constructed, since last March, as well as photographs and drawings possessing meteorological interest.

Chemistry for Photographers.

By C. H. BOTHAMLEY, F.I.C., F.C.S.

(The Yorkshire College, Victoria University).

(Continued from page 102.)

CHEMICAL CHANGES.

SINCE a chemist is concerned largely with chemical changes, or the phenomena which result from the contact of different forms of matter with one another, we must make ourselves acquainted with the outward and visible signs which indicate that a chemical change has taken place. Many everyday occurrences, such as the rusting of iron and the burning of a candle or of coal, are examples of chemical changes. In the first case the change is indicated by an alteration in colour and appearance, in the second by the conversion of the solid candle or coal into invisible gases.

EXPERIMENT 10.—Dissolve two or three crystals of potassium permanganate in 50 c.c. (2 ozs.) of water, and add to the solution two or three crystals of ferrous sulphate previously dissolved in water and mixed with 2 c.c. (30 fl. grs.) of sulphuric acid. The dark purple colour of the permanganate will disappear.

EXPERIMENT 11.—Dissolve a small quantity of pyrogallol (pyrogallol acid) in water, and add to the liquid a few drops of a solution of ferrous sulphate which has been exposed to the air for some time; a deep indigo-blue colouration is produced, which changes to green and finally to deep red.

EXPERIMENT 12.—Shake two or three fragments of litmus with 50 c.c. (2 fl. ozs.) of cold water, and mix the deep-blue solution thus formed with a few drops of any acid; the colour will change to red. Now add to the red liquid a few drops of ammonia or caustic soda solution; the blue colour will be restored.

From these experiments we learn that *a chemical change may be accompanied by an appearance, disappearance, or change of colour.*

EXPERIMENT 13.—Pour two or three drops of strong ammonia solution into a boiling tube, warm it gently for a few seconds, and then turn the tube upside down, and place it with its mouth on a piece of paper slightly smeared with lard. The tube will now contain invisible ammonia gas. Place in another boiling tube a few drops of strong hydrochloric acid, heat it to boiling for a few seconds and remove it from the lamp; the tube will now contain hydrochloric acid gas. Raise the tube containing the ammonia from the greased paper, and, keeping it with its mouth downwards, bring it over the tube containing the hydrochloric acid (which is kept with its mouth upwards), and bring the mouths of the tubes together. The two gases interact, and a solid substance is formed, which first appears as a dense white smoke, but after a time separates in small crystals on the sides of the tubes.

EXPERIMENT 14.—Hold a perfectly clean and dry beaker over a small gas flame for a short time, and observe that the inside of the beaker becomes dim, owing to the deposition of some liquid. This liquid is water, formed by the combustion of the gas (which is a chemical change) and condensed upon the cold surface of the beaker.

EXPERIMENT 15.—Dissolve 1 gramme (15 grs.) of mercuric chloride in 50 c.c. (2 ozs.) of water, and add 7 c.c. (or 100 fl. grs.) of a solution made by dissolving 10 grammes of potassium iodide in 100 c.c. of water (or 100 grs. in 1,000 fl. grs. of water.) A yellow solid will be formed, but will almost instantly become salmon-coloured, and will gradually change to deep scarlet, and settle to the bottom of the vessel as a heavy powder.

Filter off this powder, wash it two or three times by filling the

filter just up to the top of the paper with water, and allowing it to drain completely each time, and dry it by placing the funnel containing the filter in a warm, but not hot, place. Detach the scarlet powder from the paper, place it in a well corked tube or small bottle, and label it "mercuric iodide."

EXPERIMENT 16.—Dissolve 1 gramme of lead nitrate in 50 c.c. of water, and add 10 c.c. of the same potassium iodide solution; a beautiful yellow solid substance will form, and will settle to the bottom of the vessel.

A solid substance formed by the interaction of liquids as in the two preceding experiments, is called a *precipitate*.

When coal burns, the greater part of it disappears, because it is converted into invisible gases, and when paraffin oil burns, the greater part of that is likewise converted into an invisible gas; and from these familiar facts and the preceding experiments, we learn that *a chemical change may result in a change of state; gases may be converted into solids or liquids, liquids into gases or solids, and solids into liquids or gases.*

Notice also that changes of colour may accompany the changes of state. In experiments 15 and 16, brightly coloured precipitates (solids) are obtained from colourless liquids.

The burning of a candle or of coal, and all the other familiar cases of combustion, are examples of chemical changes which are accompanied by the development of heat. In very many other cases there is development of heat, although the substances do not become red hot.

EXPERIMENT 17.—Mix 50 c.c. of strong sulphuric acid with 50 c.c. of water, by pouring the acid in a thin stream into the beaker containing the water, stirring all the time with a glass rod, and taking great care to avoid splashing. Observe that the liquid becomes very hot. Ascertain the temperature by means of a thermometer.

N.B.—Whenever strong sulphuric acid has to be mixed with water, the acid must be poured *into the water* with constant stirring, and not *vice versa*. The liquids must be mixed in a thin glass vessel or in an earthenware jug, and not in a thick glass vessel, which would probably crack in consequence of the rapid rise of temperature.

EXPERIMENT 18.—Dissolve 5 grammes of caustic potash or caustic soda in 25 c.c. of water (60 grs. in 300 fl. grs.) Allow the liquid to become quite cold, add a few drops of litmus solution, ascertain the temperature by means of the thermometer, and then add 7 or 8 c.c. (100 fl. grs.) of strong hydrochloric acid, stirring carefully with the thermometer. Observe that the temperature rises, heat being developed by the action of the acid on the caustic potash or soda. The change in the colour of the litmus gives another indication that a chemical change has taken place.

We therefore find that *in many cases a chemical change is accompanied by the development of heat.* In some cases, however, there is an absorption of heat.

(To be continued.)

LITERARY PHOTOGRAPHIC CLUB.—Mr. R. A. R. Bennett writes from Walton Manor Lodge, Oxford, "Would you mind putting a short notice in the AMATEUR PHOTOGRAPHER's next number, saying that I have some vacancies in the Literary Photographic Club, and that anyone wanting to join must apply to me? I have no other means of making it known."

REDUCING CAMERA.—Mr. John Platt writes: "*Re* Pearson and Denham's Reducing Camera. I have had the sliding rod arrangement, mentioned in last week's AMATEUR PHOTOGRAPHER as being a novel feature in this camera, in use over thirty years since."

We have received an ingenious and elaborately got-up Calendar from Messrs. Scovill and Adams, of New York (the *Photographic Times*). It is framed, and is embellished by pictures illustrating early life in America from 1630 to 1690, and is altogether both interesting and ornamental.

Winter Work.—XXI.

By T. C. HEPWORTH, F.C.S.

HINTS ON ENLARGING.

(Continued from page 119.)

In order to make my remarks clear concerning the construction of these large glass-bottomed dishes, I here offer a diagram (fig. 1), which is a sectional view of one of the sides with the glass bottom inserted in its groove as already explained. In making this form of dish it is as well to place the glass *in situ*, and to see that the corners will come together nicely before any cement is applied to the groove. If this should be the case, it will then be the time to fill in the groove with its mixture of white and red lead, a large portion of which will be forced out as the glass is firmly

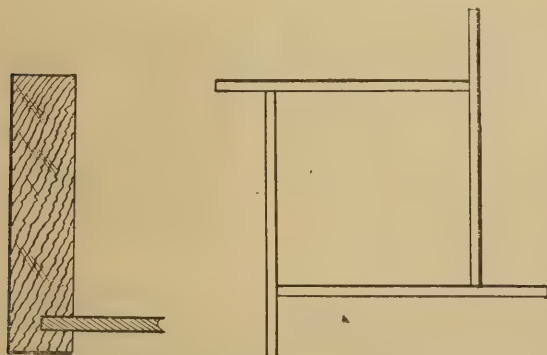


FIG. 1.

FIG. 2.

pushed into its place. This superfluous stuff should be neatly removed and finished off with a knife when the wooden frame has been joined together. A first-rate carpenter will, of course, use a dovetail join here, but I prefer to simply pin the woodwork together with French nails, for should the glass bottom be at some future time broken, it can then be easily replaced by forcing asunder the corners of the dish. There is no kind of strain upon the woodwork, and the nails will be found all-sufficient.

A still simpler form of dish can be arranged as a makeshift out of four laths placed as shown in fig. 2. It is obvious that laths so placed can be made to form a rectangular frame of any size. The laths should be arranged as shown to suit the dimensions of the paper enlargement, and should rest on a moveable flat surface, such as a drawing board. After exposure, the paper should be thoroughly wetted, drained, and laid face upwards, so that the four edges just lap over the laths. The paper will now form its own dish, and the supporting board can be raised and inclined at any slope so as to coax the developer in any required direction. This plan is, of course, a makeshift, and has its disadvantages, but it is worthy of mention here as a means which may be adopted when no better one is available.

With regard to the method of supporting the paper in front of and square with the enlarging lens, little need be said. Any form of upright easel which will bear a board upon which the paper can be pinned during exposure, will answer the purpose, and perfection of arrangement is reached when this easel can be made to travel on rails or laths attached to the floor, to and from the lens. In this way the scale of enlargement is increased or diminished at pleasure. A square box with an upright board nailed to one of its sides, and projecting upwards for four or five feet, is as good as anything that can be devised. The box can be made to run between two guiding laths on the floor, and

the upright board will form a vertical easel. The paper can be readily attached to the board by means of ladies' bonnet pins, which are far more easy to handle in a darkened room than are the usual flat-headed drawing pins.

It may be thought that there is some difficulty in attaching a gelatine plate to this form of upright easel when it is desired to produce an enlarged negative instead of a positive on paper. There is no difficulty in the matter; indeed, strange as it may seem, the attachment of a glass plate to the surface is easier than pinning up a sheet of paper in the same place. By driving into the board three 2-in. French nails in the positions shown in fig. 3, taking care that they all incline inwards—that is, towards the centre of the board—a glass plate can be supported with ease and safety. The two lower nails serve as a shelf to rest the edge of the glass upon, and the single nail above, against which the right-hand upper edge is placed, keeps it from tumbling forwards. This clever little dodge I saw in practice at the Richmond works of Messrs. Morgan and Kidd, who fasten up large opal plates in this manner during exposure. This simple expedient is of service in another way. Let us suppose, for instance, that an enlarged negative shows during development that it has not received sufficient exposure. The developer is washed off, and the negative can once more be placed under the influence of the lens, and, provided that no part of the enlarging apparatus has been shifted, its place on the three nails will bring it into the exact position with regard to the lens which it occupied in the first instance. Partial development has, it is true, robbed the film of fifty per cent. of its sensitiveness, but it is still sensitive for all that, and the extra exposure will quickly tell under re-development.

Another point may usefully be considered here in the addition of clouds to a landscape the negative of which is dense and opaque. The method to which I am about to refer is applicable to a positive on paper, or on opal or

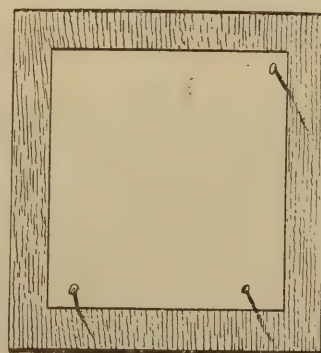


FIG. 3.

plain glass, and I see no reason why it should not be applied to the production of an enlarged negative from a small positive. But the principle is best explained if I suppose for the nonce that it is desired to finish a positive on opal plate with clouds from a separate negative. The clouds must, of course, be suitable to the landscape in question, and this matter has been fully dealt with in a previous page. The plate having been supported on the easel upon the three nails, receives the normal exposure, and is then developed. Development is only allowed to proceed to a certain point, when the plate is placed under the tap and is rinsed and drained. It is now replaced upon the supporting nails, and while the half-developed landscape is kept shielded by a card from the action of the lens, a cloud negative is allowed to trace its image on the blank upper portion of the plate.

This second exposure having been carried on to a sufficient point, the plate is once more developed, and as the land cape portion acquires full density, the clouds gradually make their appearance. This method of working is most successful, and is in daily operation at those same works at Richmond where I learnt of the little dodge with the three French nails.

Many forms of enlarging apparatus are now supplied by different makers, and although they differ in detail, they are necessarily the same in principle, and take the form of an optical lantern with a large condensing lens. Anyone who already possesses a lens suitable for enlarging can, by investing in a large condenser and a good three or four inch lamp burning mineral oil, rig up an enlarging apparatus for himself which will do good work. The best form of lens to employ is one of the portrait variety, for it is so quick in action, and when we are dealing with a comparatively subdued light, like that given by oil, the exposure becomes very protracted if we use other forms of lenses. The Euryscope is but little behind the portrait lens in the matter of speed, and I have found it invaluable for the present purpose.

In fig. 4 I have endeavoured to picture the way in which the various parts of the suggested rough-and-ready enlarg-

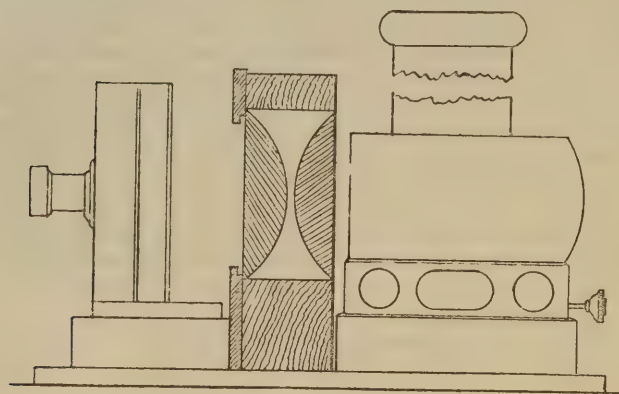


FIG. 4.

ing apparatus can be arranged. On the right hand side of the figure is the lamp, and against it is the double condenser, set for convenience in a wooden block. On the same block, on the side farthest from the lantern, are grooves to hold the negative which is to yield an enlarged positive on the distant easel, and on the left-hand side of the figure is the enlarging lens, fitted on to a camera. In practice, of course, all these different parts will require adjustment according to the focus of the lenses employed and the amount of magnification to which the image is subjected. Supposing that the operator elects to employ such a combination as suggested, his work should first of all be strictly experimental. Let him decide upon the size of the image which he requires, and place the various component parts of the apparatus upon a flat board. He can then light the lamp, fix a negative in the groove provided for it, and rig up a sheet of cardboard to project its image upon. The first requisite is to obtain a clear disc of light, which is only possible when both lenses are accurately centred with the flame of the lamp. Both condenser and camera will probably require support upon pieces of wood before the right position is obtained. Next, the distance of lamp from condenser, and objective from condenser, must be seen to, and when both are in place, their position should be marked upon the base-board for future reference. The tables relating to enlargement will be useful, and can easily be found by reference to the annuals.

If, from the particular form of lamp employed, dispersed light should make itself troublesome, a sheet of cardboard with a hole in it, through which can project the camera lens, will form an efficient screen, or with a little ingenuity the entire arrangement can be boxed in. A square box with the lens fitted to it will answer the purpose of the camera, and the lens should have, if possible, a rack and pinion adjustment for the purpose of delicate focussing. Exposure should form the subject of many trial slips of paper, for it is quite impossible to give any useful information upon the point, so much do the bromide papers of commerce differ in their rapidity.

Where unusually large pictures are required, the oil lantern is not a desirable illuminant, for the exposure required is enormous. In such a case the worker will do well to employ the limelight, which can easily be adjusted to the same form of apparatus.

“Thursday Evenings” at the Camera Club.

BY ONE OF OUR STAFF.

ON Thursday, February 20th, a paper communicated by Mr. W. K. Burton was the subject for discussion at the Club. The title of the paper was “One or Two of the Tenets of the Naturalists.” Mr. Pringle read the paper. Mr. W. A. Greene occupied the chair.

Mr. Burton, in his paper, took the view that any want of sharpness in the principal objects or plane, and any falling off away from the centre of interest in the different planes, could not be defended upon optical principles, but that, on the other hand, these principles would appear to demand that planes other than the plane of chief interest should be less perfectly defined. He further referred to the subject of imagination in the pictorial arts, and to the possibility of introducing it in photographic work.

The discussion was opened by a paper read by Mr. Davison, in which he observed that the variation in focus of different planes, admitted and argued by Mr. Burton, was one of the chief contentions of those called naturalists. He thought it was more a matter of the mental attitude, whether representations should be sharp or not. A definite detailed examination of nature was the scientific, not the artistic, attitude. He thought imagination could not be expected to supply the truth of representation (an analytical, not a realistic representation) in which lay the thrilling charm experienced by an artistic perception of a beautiful scene in nature.

An animated discussion was carried on by Messrs. Shipton, Humphery, Sturme, Pringle, Clift, Davison, Maskell, Jerome Harrison, and the Chairman. A letter from Mr. Graham Balfour upon the subject was also read.

On Thursday, March 6th, Mr. Pringle will treat of the subject “The Optical Lantern.” Meeting at 8 p.m.

THE Boston (U.S.A) Camera Club have announced another lecture illustrated by lantern slides, entitled “Glimpses of California.” The slides are entirely the work of members of the Pacific Coast Amateur Photographic Association of San Francisco.

WE have received, too late for publication, a short report of the opening ceremony, and a list of awards for exhibits at the Hastings and St. Leonards Photographic Exhibition, which has been promoted by the local Society. We shall give a more extended notice in next week's issue.

“FALLOWFIELD'S PHOTOGRAPHIC REMEMBRANCE” for the quarter ending March is of considerable interest now the time for hand-camera work is coming, as it contains a good description of the “Facile,” one of the best hand-cameras in the market. It also contains cut of a new walking-stick stand, for use with the “Facile,” which is said to have no equal for rigidity. The paper is accompanied by process reproductions of four pictures taken with the camera referred to.

Our Contemporaries at Home and Abroad.

Anthony's Photographic Bulletin (New York), speaking of "Systematic Work for Photographic Societies," says, "What particular purpose does each one serve? That the members are lovers of photography, goes without saying. That each one is a member of the society he or she belongs to for the purpose of acquiring skill in the use of photographic apparatus may also be taken for granted. And yet there are quite a number of members who, after going a certain distance in this process of education by association, ultimately exhibit a lack of interest in the art, and may possibly fall out of the ranks. To overcome this tendency to lose interest in photographic societies, some organised effort at systematic work among the members appears eminently desirable." Articles: "A New Method of Mounting Photographs on Paper without Cockling," "Certain Processes for Toning Opalotypes and Aristotypes," "Pyrocatechin Development," "Dust," etc.

The *Boletín Fotográfico* (Havana) contains articles on "Platinum Printing," "Eikonogen," "Orthochromatic Gelatino-Bromide Plates," "Pyrocatechin," etc.

British Journal of Photography, in an article on "Some Fallacies about Residues," says, "We are inclined, however, to believe that the greatest fallacy of all in connexion with residue reducing is that of attempting, when the material is not on a manufacturing scale (except as a single experiment or two done for the purpose of obtaining knowledge), to bring the residues into the metallic form before obtaining value from the refiner." Among the editorial notes the question is asked, "Is it not a mistake for photographers to send out so many proofs of a portrait as some artists are now doing? Setting aside altogether the question of the extra expense entailed, and the conveying to the mind of the customer the idea that the artist's time is of little value, and the cost of material must be small, is it good policy?" Articles: "Development by Means of Vapour," "Carbonate of Soda as a Dessicating Agent," "An Illuminating Reflector for Copying Purposes," "Silver Printing by Substitution," "Stereoscopic Photography," etc.

Journal of the Photographic Society of India (Calcutta) says, "I wish something could be devised as an efficient substitute for medal and diploma awards at photographic exhibitions, or that some salutary restrictions were placed upon exhibitors as to the pictures they send in competition for these awards. When we see the great dry plate firms at home offering a number of gold medals as prizes for pictures taken on their make of plates, and competitors flocking by the thousand to compete for them, it may well make societies like ours pause, and ask if the time and money of the members could not be spent to better purpose than in medalling a mass of pictures which go the rounds of the exhibitions as do champion fox terriers the dog-shows. It would be some check to this practice were pictures once medalled at any exhibition debarred from competing at another. But the question arises—How then are we to have an opportunity of seeing the best works of the day?" Articles: "Picture Making by Photography," "The Indian Amateur Photographer," "The Exhibition," etc.

The *Parkhurstian* contains a fairly good bromide print from a negative of the school, with the masters' cottage beside it, and also an interesting little article on "Ants."

Photography, on the question of "Judges," says, "There are doubtless, other disqualifications, but we have said sufficient to show that very much room for improvement exists in the selection of judges. And, what is more, it will ere long become a burning question, as the best known men drop off one by one through lack of faith in either the capability or the impartiality of the judges chosen. Promoters of exhibitions, see to it." Articles: "Safety of Gas Cylinders," "On the Reasons for the General Inferiority of Enlargements as Compared with Large Work Done Direct," "Photographic Benevolent Association," "An Exhibitor's League," "Improvements in Sensitive Films," "A New Limelight," etc.

Photographic News, speaking of the question of nomenclature in "The Report of the International Photographic Congress," says, "The Congress has, in this matter, accomplished some use-

ful work, in attempting to bring chaotic nomenclature into something more resembling law and order. How far the improvements it advocates will—either before or after their revision by other Congresses—be brought into general use is another question. The higher the education of any scientific fraternity, the easier it is to introduce more accurate terms; indeed, chemistry and physics have seen vast improvements in this respect within the memories of many persons now living. The lower the education of any scientific fraternity, the more conservatively does that fraternity hold on to words it has once adopted, however unsuitable those words may be. Photography includes all sorts and conditions of men, so how any attempt to revise its scientific nomenclature will succeed, remains to be seen." Articles: "Films on Glass Surfaces," "Action of Heat on Sodium Carbonate," "An Iso-Radial Focussing Eyepiece," "Destruction of Dry Plates by Insects," "Stereoscopic Photography," "Isochromatic or Orthochromatic," "Photo-Lithography, and the New Albert Photo-Lithographic Transfer Paper," etc.

Photographic Times (New York), in an article on "How to Recover Gold from Old Toning Baths," says, "If we were to add to such a toning bath (alkaline) a small quantity of hydrochloric acid, and neutralise the excess of acidity again with the alkali or alkaline salt previously used, the activity of the bath would be restored and toning continued, provided there was gold enough in the bath to carry on the process. This method of restoring a seemingly spent toning bath is little known, and the lack of this knowledge occasions the loss of large quantities of gold." Articles: "Home-Made Trays," "Transparencies and Lantern Slides," "Artificial Clouds," in the course of which it gives the following suggestion: "Very passable cloud effects may be had by an easy means. If the negative be a quick printer, apply retouching varnish to the back of the plate, rubbing it on with the finger, keeping up a rotary motion, and carrying the circles of varnish well down to the line of the horizon. Then allow to dry. Scrape lead from a soft pencil, and rub it down with the finger on some coarse surface like slate until it is very fine. This may then be applied with the finger or brush to the varnished back of the negative. The lead will adhere somewhat unevenly, giving more printing density in some parts than in others, which is just what is desired, and, when a proof print is taken off, little corrections can easily be made in shading off too ragged edges by applying a little more lead where needed, or using powdered pumice on the finger by rubbing a little off," etc.

Revue Suisse de Photographie (Geneva) contains an article on "Photography for Beginners," and there are several process block reproductions of pictures. The general conclusions of the recent Congress are given.

The *Studio* (New York) still keeps up its interest and style, both with respect to articles and illustrations. The articles are on "Terra Cottas and Vases at the Union League Club," "A Cruikshank Trovato," "Pablo Sarasate," "The Tudor Exhibition," "Sir E. Arnold on the Japanese," "American Notes," "Of Dyeing as an Art," "Daute G. Rossetti," etc.

Wilson's Photographic Magazine (New York) says, "The question has been raised whether an amateur has any right to photograph everything he may desire, and without the knowledge or permission of the subject, when the subject is a person. Armed with a detective camera, the amateur is, indeed, a formidable personage, and unsuspecting people may well tremble when caught in some ridiculous or compromising position. Many amateurs have undoubtedly carried the thing too far, and are often justly rebuked for what is simply an impertinence. But there are subjects legitimately open to the instantaneous photographer which cannot be depicted in any other way. The field is an almost inexhaustible one—marine pictures of all kinds, including shipping, surf, and regattas, fleeting cloud forms, street life, animal studies, and, indeed, all objects in motion." Articles: "Some Working Particulars," "Practical Points from the Studios," "Transparent Cyanotype Prints," "Upon Some Methods of Finishing Photographs," "Raising of the Gelatine Film," "Platinum Process," etc.

THE BIRKENHEAD PHOTOGRAPHIC ASSOCIATION will give a public concert at the Claughton Music Hall this evening (Friday), arranged by Mr. W. H. Hunt, Mus. Doc. The chair will be taken at 7.15 p.m. by the President.

Societies' Meetings.

NOTE.—In this column the Editors can, of necessity, only give a brief summary of the proceedings. The PHOTOGRAPHIC SOCIETIES' REPORTER was established to report the transactions of Societies, and the Editors will be glad to receive reports for insertion as early as possible after the meetings have been held, and at the latest before the 24th of each month.

ARNEY CAMERA CLUB.—At the usual weekly meeting held February 21st, Mr. Adkins gave a demonstration on carbon printing. In his paper he sketched the process from its earliest days to the present time, and afterwards successfully conducted the various operations incidental to the single and double transfer processes. The vote of thanks was moved by Mr. Moon and seconded by Mr. Quin. The first of a series of Club competitions was announced for March 28th, the subject being "Gelatin Lantern Plates: Contact Printing." On March 7th there will be an exhibition and discussion on detective cameras, to which all local amateurs are cordially invited.

BOSTON (U.S.A.) CAMERA CLUB.—The members of this club met at Union Hall, 18, Boylston Street, on the 21st inst., for the purpose of hearing a lecture on "The White Mountains," which was illustrated by a series of magnificent slides. The Rev. W. F. Dusseault was the lecturer.

CARDIFF AM: PHOT: SOC:—The usual weekly meeting of the above Society was held at their studio on Wednesday the 19th inst., Mr. E. Lewis in the chair. The following gentlemen were duly elected ordinary members: Rev. Archdeacon Bruce, Thos. E. Heath, and Mr. H. J. Davis. The lecturer for the evening, Mr. Bert Harris delivered a very instructive discourse on "Photographic Faults," pointing out the errors in lighting, posing, retouching etc.; distortion both from paper and lens defects; also dealing in a very exhaustive manner with the untrue rendering of colours. A lengthy discussion followed. Mr. Booth mentioned that some of the kindred societies were making photographic surveys of their different counties, and considered it was a matter worth taking up *re* Glamorganshire, promising at a later date to bring the subject more prominently before the members. Last Wednesday Mr. Josty was announced to lecture on "Home Portraiture, and How to Construct a Studio," illustrated by models.

DUKINFIELD PHOT: SOC:—The second annual exhibition of this Society was held on Thursday, Friday, and Saturday, the 20th, 21st, and 22nd inst., at the Co-operative Hall. The Society must be congratulated on the entire success of its efforts. The prints exhibited were of a high standard, and the patronage they received must be very gratifying to the members. Upwards of 800 prints were exhibited (a large number being framed), the hanging being very tastefully done. All known processes were represented. The proprietors of the AMATEUR PHOTOGRAPHER kindly lent the "Church Architecture" competition prints, a number of which were hung and much admired. On Thursday evening a large number of members' lantern slides were thrown on an 18 foot screen, by Mr. Fred. W. Cheetham. On Friday a set of slides illustrating the Manchester Jubilee Exhibition were exhibited, in addition to sets kindly lent by the Woodburytype Company, and Mr. T. B. Sutton, of Liverpool. On Saturday a soirée was held for members and a limited number of friends, and dancing and songs were not the least attractive items of the evening. The attendance was very satisfactory during each of the nights the exhibition was open.

HOLBORN CAMERA CLUB.—On Friday, 21st, about thirty members attended to hear a lecture by Mr. Clifton on carbon printing. Mr. Chang having been voted to the chair, presented the Club with two framed prints and two lantern slides of the recent flash light groups taken by him, also a framed print for the Holborn Cycling Club. Two new members were elected, and Mr. H. Thompson was proposed a member of the Club. Mr. Clifton then commenced his demonstration on carbon printing. As the light had been so bad for printing all day, it was only through the kindness of Mr. Cattell, who started his gas engine and dynamo, and put on a 3,000 candle power lamp, that Mr. Clifton was enabled to get any prints to bring with him. After removal from the frames they are placed, face down, in warm water, when they immediately curl face inward, and almost directly commence to uncurl. When they are flat on the surface, squeegee on to opal, place a piece of blotting-paper and a weight on top, and allow to stand for ten minutes, then put in warm

water, and after a few minutes the paper support can be removed and development commences. The principle of the process consists in the fact that bichromated gelatine that has been acted upon by light is rendered insoluble, while the high lights not having been so, are easily washed away, leaving a picture composed of various thicknesses of pigmented gelatine. Mr. Clifton having produced several very successful prints on opal, received a most unanimous and hearty vote of thanks for his kindness in coming. Friday, 28th, lantern night, when the illustrated Boston slides will be shown on the screen. Visitors will be welcome. Pictures for the Club exhibition can be received at the Club room any evening this week. The Club Cinderella and Exhibition will be held at Anderton's Hotel, 8 p.m., on Saturday, March 1st.

KENDAL LIT: AND SCI: INST:; PHOT: SEC:—The meeting of this section was held on the 19th inst., Mr. Isaac Braithwaite in the chair, a large attendance of members and some friends being present, and the offer of a copy of "Pictures of East Anglian Life," by Dr. Emerson, was accepted with many thanks. The evening was devoted to the exhibition and the judging of lantern slides (sets of four) made entirely by members. Twelve competed, and the voting resulted in the first prize for the best set being awarded to Mr. John Armistead (Dalton), while the same gentleman was successful in being awarded first for the best slide. The slides as a whole were considered very good, showing considerable improvement on the exhibition of last year; the winning slides were decidedly good, and well deserved the position assigned them. Two series of views illustrating respectively mountain and river scenery, were, by the kindness of the Editors of the AMATEUR PHOTOGRAPHER, put through the lantern, and the proceedings closed with votes of thanks to Messrs. Hayhurst and Thomas, Mr. Severs, Messrs. Robinson and C. Bateson; and the Editors of the AMATEUR PHOTOGRAPHER, for loan of slides.

LIVERPOOL AM: PHOT: ASSOC:—The second ordinary meeting of the session was held on the 27th inst., when a number of candidates having been ballotted for, Mr. D. Lewis read a paper on "A Fortnight in the Netherlands with a Camera," and Mr. W. P. Christian one on "Moor and Don; or, Studies in Algeria and Spain." They were illustrated by the oxy-hydrogen light. On the 18th inst. a special lantern exhibition was given, under the auspices of this enterprising association, in the Lancashire and Yorkshire Station Buildings, Tithebarn Street, the large sale-room of which was well filled by a most attentive and appreciative audience. The entertainment, which was conducted by Mr. Paul Lange, the President, consisted of the display of some 180 lantern slides, embracing the whole of the gold, silver, and bronze medal winning sets in the *Photography* competition, lent by the editor of that journal. The views embraced some beautiful and artistically taken scenes from Norway, etc., in addition to highly-successful sunset and other views, most of which were much admired.

LOUTH AND DISTRICT PHOT: SOC:—A meeting was held in Mr. S. F. Clarke's drawing-room on Friday, Mr. J. W. East presiding; there were present Messrs. H. L. D. Marsden, E. Hall, J. J. Cresswell, C. James, and Mr. and Mrs. Clarke. Captain Smyth was unanimously invited to become the President. The election of other officers and the Committee was deferred until March 4th, Mr. Clarke undertaking to carry on the work of Hon. Secretary in the meantime. Beside those present the following gentlemen had signified their readiness to join the Society:—The Revs. Coates, Whistler and Everingham, Captains Ranshaw and Smyth, Messrs. A. Hall and A. Plaskett. The photographs shown in the AMATEUR PHOTOGRAPHER's competition were inspected, some capital pictures being included. That taking the head prize was a splendid seascape, reproduced with vivid realism. Mr. Clarke's prize photograph, "What Love Hangs by," was a charming group. The enthusiasm of Mr. and Mrs. Clarke is arousing lovers of the "black art" in the locality. The previous week, in a competition at Royton, Lancashire, Mr. Clarke took a bronze medal for photo-micrographs, in a scientific class open to amateurs and professionals.

NORTH LONDON PHOT: SOC:—The ordinary meeting was held on the 18th inst., under the presidency of Mr. Mackie. Some discussion took place on Tylar's Window shutter, and the opinion was expressed that such a shutter had a tendency to shake the camera. Various methods of making lantern slides were described, one member finding that parchment paper was a good diffuser of light. Mr. Traill Taylor said he had used recently Hughes' cantilever enlarging apparatus, the light being a paraffin light.

A discussion took place on the use of bichromate of potash as a reducer, in the course of which Mr. Taylor said that if plates had been exposed to light, immersion in a weak solution would restore them so that they could be used. The recent explosion of an oxygen bottle was referred to, and it was pointed out that if the heat of the gas had caused the incandescence of metallic particles in the bottle, that would not occur after the bottle left the works where it was cooled. The next meeting of the society at Myddelton Hall will be upon March 18th, the President, Traill Taylor, in the chair, when a demonstration will be given by the Britannia Works Company, on printing on alpha and bromide papers. Members are requested to notice that this demonstration is on March 18th, and not April 18th, as has been announced in error.

SCIENCE SCHOOLS PHOT. SOC. (SOUTH KENSINGTON).—The chair at the February meeting was taken by Mr. G. C. Rogers. After some discussion had taken place on improvements for the Society's dark-room, Mr. E. V. Clark read a paper on "Testing Photographic Lenses," of which the following is a short summary: In testing a lens it is necessary to pay particular attention to the purpose for which it is required, and also to remember that a subject may be chosen for a picture which will be better rendered by an inferior lens; for example, a lens with a spherical field would give a much better picture of a street with houses on either side than an acknowledged well-made lens. One of the first experiments to be tried is the determination of the focal length. This is done sufficiently accurately for most purposes by focusing a distant object, and measuring, in the case of a single lens, the distance between the screen and the lens, and in the case of a doublet, between the screen and the diaphragm slot. The visible defects in a lens are often the least troublesome; thus, bubbles in the glass, if near the edge, do not produce any interference worthy of consideration. A rather objectionable fault is the formation of an iridescent film on the surface of the lens, producing a scattering effect on the light. A blurred image may be due to the lens not being of homogeneous material, or to its not being properly ground. Whether a blurred image is produced may be tested by setting up a newspaper, vertical and square to the camera, focussing and exposing a plate, using a small stop. After development, the negative is examined with the aid of a magnifying glass to see if any local blurring other than gradually falling off in sharpness towards the edges is noticeable. A fault known as a flare spot is detected when present by taking a photograph of a bright scene, using a small stop, and looking for a fogged appearance opposite the centre of the lens. The following will serve as a means of finding the presence of a ghost image: Focus on the screen the image of a candle flame, and, covering the head with the cloth, move the camera slowly round, and watch for an image moving in the opposite direction to the real image. If present, it will be direct and faint; in short, a ghost image, which, if not already in focus, may be readily focussed. A fault which if not detected will prove very troublesome, is the non-coincidence of the chemical and visible images. To detect this, place about five cards behind and above one another. At a distance from the cards of forty times the distance between two consecutive cards, the camera is placed and focussed on the middle card. A plate is then exposed, developed, and examined to see if any card is clearer than the one which was focussed. In place of the usual focusing screen an old plate in the slide should be used, both shutters being drawn, and focussing being done on a scratch on the side of the glass facing the lens. It is as well to know the covering power of the lens, since some half-plate lenses will cover whole-plate, and others only quarter. This is conveniently done by fixing the lens in the front of a camera larger than that for which it is required, and an image of a watch face is focussed on the screen; the covering power is given by the distance on both sides from the centre that an image can be formed. Astigmatism may be looked for at the same time, comparing the fine strokes of the X in 12 and 9, this fault being the inability to focus vertical and horizontal lines at the same time. If a lens is correctly centred, on getting the images of a candle flame produced by the lens superimposed, on rotating the lens they should remain so. The flatness of the field is readily ascertained by focussing a newspaper at the centre of the plate or screen, making a mark on the baseboard, and racking out till the edges are in focus, again marking the boards; the distance between the two marks gives an indication of the curvature or flatness of the field.

SWANSEA AM. PHOT. ASSOC.—Nearly 200 persons assembled at the Albert Minor Hall on January 31st, at the second public lantern evening of the above Association. The first part of the exhibition consisted of river and mountain scenes, instantaneous and figure studies, which were kindly lent by the "AMATEUR PHOTOGRAPHER." The second part consisted of local views by members of the Swansea Association, the principal of which were Maegain Abbey, the falls in Vale of Neath, Penllergare, and Llandilo. The members were very much encouraged to find that their own slides were quite equal to, and in a few cases better than the borrowed ones. Judging by the attendance at these exhibitions and the applause which greets the best pictures, they are greatly enjoyed not only by photographers, but by the general public. Mr. Webber manipulated the lantern.

WALLASEY PHOT. ASSOC.—The ordinary monthly meeting was held on the 5th inst., the Vice-President (Mr. E. Kite) in the chair. Mr. W. Priestley was elected a member of the association. The room has been decorated with framed pictures, the competitive and other prints, work of the members. Several exhibits were passed round—a "Thornton-Pickard" shutter by Mr. Gregg; Mr. Sharp showing an improved roll-holder for the new flexible film, as well as a "Swinden and Earp" hand-camera holding and changing automatically twenty plates. This camera obtained the medal awarded by the Photographic Society of Great Britain. Mr. Gregg exhibited some fine specimens of his work on bromide paper, which showed its keeping powers; the paper, although it had been in stock many months, giving beautiful prints. Mr. Wilkinson showed specimens of his work on the new roller film. Mr. Frank Vaughan gave a very able demonstration on photo-zincography, treating of the processes used in transferring a picture from the gelatine plate on to the block used for printing from. He gave examples of work in all its stages, starting from the drawing, which is photographed by the wet-plate process. A zinc-plate is then taken sensitised with a solution of albumen and bichromate of potash and exposed under the negative, making all parts through which the light cannot get insoluble; the plate is then rolled with the transfer ink and developed, leaving the lines of the original drawing in transfer ink on the zinc plate; the other portion of the plate is submitted to an acid bath, the lines being left in relief and ready for the printing press. The paper was very interesting throughout, and a hearty vote of thanks was passed to Mr. Vaughan. The next meeting will be held on the 5th prox., when Mr. H. Wilkinson will give a paper on "Clouds and Cloud Negatives." A discussion will also take place on "Detective Cameras," several descriptions being shown.

WEST LONDON PHOT. SOC.—An ordinary meeting of the above Society was held at the Addison Hall, on the 14th inst., Dr. F. H. Low, M.B., presiding, through the unavoidable absence from ill-health of the President. The members were informed that Mr. Wilson intended presenting the Club with a selection of photographic works for the library. After questions from the box had been put and answered, and the discussion thereon, and the election of new members and other formal business gone through, Mr. Ronald Whiting read his paper on "Reducing and Intensifying Negatives." In the discussion which ensued, Mr. C. Whiting remarked that negatives dried quickly through immersing in spirit to drive the water off are generally much denser than those dried in the ordinary way. In fact, a negative that was dry in some parts and not in others, on being put into the spirit and dried was found to be almost twice as dense in those parts that were not dry on immersing in the spirit. He also mentioned that if a very much under-exposed negative were simply bleached with mercury, and then allowed to go, it would be decidedly improved, and although the contrasts before were too violent, the bleaching would remedy that to a large extent. Mr. Blackmore said he did not approve of intensifying a badly under-exposed negative. It had its proper place, which was certainly not in the printing frame. Mr. R. Whiting, in replying to questions, remarked that the different processes of intensification enumerated could be used with films, and he did not think there would be found to be any action on the celluloid backing. The Chairman requested the members who had won medals at the late exhibition to send them to the Secretary, as they were to be engraved with names and dates; and announced that a special general meeting would be held on the 8th of March, to consider the exhibition, and generally discuss all matters relating thereto, except that the question of the awards must not be touched upon in the sense of questioning any of them. A

vote of thanks to Mr. R. Whiting for his paper, and to the Chairman for presiding, terminated the proceedings. Members will note that the meeting of the 8th of March is not to interfere with the holding of the next ordinary meeting on the 28th inst.

WOLVERHAMPTON AM. PHOT. SOC.—A most interesting and instructive lecture was given in the Assembly Room, Agricultural Hall, on February 21st, by a prominent member of the Birmingham Photographic Society, entitled "Through Western Norway with a Camera." Councillor T. Ironmonger, the Society's President, occupied the chair, and there was a capital attendance. The Chairman, in introducing the lecturer, said the whole of the views, which numbered from 150 to 200, were the result of the lecturer's own handiwork. The lecturer expressed his desire to

make the entertainment as realistic as possible, and he therefore put a map on the canvas (13 feet square), pointing out the route, which was *via* Birmingham and Hull to Western Norway. The starting point was Queen Square, Wolverhampton. Some moonlight sea scenes *en route*, with unsurpassable cloud and reflective effects were enjoyed, and on landing, the party were shown a collection of interesting views that would occupy too much space to explain in detail. The lecture should certainly infuse new fire into the minds of all those who were in attendance, and Mr. J. W. Evans, the Hon. Sec. of the Wolverhampton Amateur Photographic Society, is worthy the thanks of its members for the introduction of such an able and successful experimentalist. Votes of thanks terminated the proceedings.

To Correspondents.

THE insertion of **QUERIES** and **ANSWERS** is attended with much labour, and it is requested that the questions asked and the answers given shall be short and to the point. No charge is made.

All communications for the columns are to be addressed to **The Editors, "Amateur Photographer,"** 1, Creed Lane, Ludgate Hill, London, E.C.

RULES.

1. Write clearly and distinctly on one side of the paper only.
2. Write each Query or answer on a separate sheet of paper.
3. Write the name and address legibly on the back of each communication, and sign all Queries and Answers with name or *nom de plume*.
4. All matters for these columns **MUST** be received by **TUESDAY MORNING'S** post.
5. The Editors do not undertake to answer questions by post.
6. In answering Queries correspondents are requested to mention, in every instance, the number and full title of the query referred to.

QUERIES.

3503. **Toning.**—Will anyone kindly give me the exact formula for toning with chloride gold and neutral oxalate of potash?—**BORDEN.**
3504. **Alpha Lantern Plates.**—Will anyone who has worked these plates kindly tell me if it is possible to get black tones or anything approaching that? also can green tones be got with them, and if so, how? With thanks in advance.—**CYCLOS.**
3505. **Astronomical Lantern Slides.**—Will any of your readers kindly inform me where I would be likely to obtain, on reliability, an "astronomical set" of lantern slides, and "book matter" to accompany, together with probable cost of such?—**FRATER.**
3506. **Jersey.**—I intend spending a week or two of March in Jersey, and also intend (if possible) taking my camera; will anyone inform me whether on my arrival at Weymouth I shall have to open my boxes of dry plates, or whether they have a dark-room provided, the same as they have in the London Docks? If this is not the case, are the Customs provided with the necessary room at Plymouth?—**AN OBSERVER.**
3507. **Dry Powder Developer.**—I should feel indebted if anyone that has used the dry powder developer would give me an opinion about it. I should also like to know how long time it will keep, and how it must be kept in order to always be ready and fresh for use? Can instantaneous pictures be developed with it?—**A. T. J.**
3508. **Developer.**—Wanted a concentrated hydroquinone developer, two or three solutions, for travelling.—**WANDERER.**
3509. **Thomas's Plates.**—Please say the best means of judging the exposure of Thomas's extra rapid plates (R.R. lens)?—**PHOTO.**
3510. **Stops.**—I have a 5 by 4 camera, and cannot find out the number of my stops; the lens is 6 in. focus; will some one kindly tell me how to number them?—**ABORIGINAL.**
3511. **Clearing Bath.**—Will some one kindly tell me a good clearing bath for bromide paper? I always have a yellow tinge in my prints. I develop by hydroquinone.—**ABORIGINAL.**
3512. **Time Shutter.**—Will any amateur kindly tell me if they know of any reliable automatic time-shutter, so that by turning a screw I could obtain any exposure from say $\frac{1}{4}$ second to about 20 or

30 seconds, or less. The lens must be open practically the whole of the time. Information of any such shutter, with price and where to be obtained, would greatly oblige.—**J. F. ONILD.**

3513. **Hand Camera.**—Would any reader of the **AMATEUR PHOTOGRAPHER** kindly recommend a hand camera to take 5 by 4 pictures (plates). By doing so it would greatly oblige.—**FRANK RASENAL.**

3514. **Detective Camera. How to Make.**—Will any of the kind readers of the **AMATEUR PHOTOGRAPHER** tell me a good and simple way to make a detective camera, one to hold twelve plates, $\frac{3}{4}$ by $\frac{1}{4}$, giving me full dimensions and particulars as to construction of same. I have an Optimus 7 by 5 rapid rectilinear lens; please say whether I shall be able to use same at a fixed focus.—**L. M. P.**

3515. **Trafalgar Plates, etc.**—Will any amateur who has used Wood's, or Cheapside, "Trafalgar" plates, and Wood's hydroquinone developer, give me his opinion of them; are they as good as any of the other cheap plates? Also his opinion of Wood's sensitised paper, and if the acetate toning bath is the best for same?—**BEGINNER.**

3516. **Lancaster's Instantograph.**—Will any amateur give me his opinion of Lancaster's quarter-plate Instantograph? Is the lens a good one? and is the camera strong and well made? Does the shutter vibrate camera? Is it better to buy the International camera than the Instantograph? Are Underwood's goods any better than Lancaster's?—**BEGINNER.**

3517. **Thistleton's Hand Camera.**—Would Mr. Dresser kindly say where Thistleton's hand camera is to be seen or obtained? Also his own, if in the market?—**C. S. T.**

3518. **Photographs of Trains.**—Will any reader kindly inform me where I can get instantaneous photographs of express trains, the G.N. and L.N.W. Scotch expresses in particular.—**G. H. T.** (address with Editors.)

3519. **Toning Lantern Slides.**—Will some kind reader give the best method of toning lantern slides to a rich bluish purple? Should the slide be toned before, during, or after fixing? I develop with Thomas's hydroquinone.—**CARLSBAE.**

3520. **Lens for 5 by 4 Hand Camera.**—I want to make a 5 by 4 hand camera; is there any lens which will cover a plate that size, and working as a fixed focus lens will give all objects in focus at 12 feet or thereabouts? All the lenses that I can find advertised seem to be of so long a focal length that objects would not be in focus under 30 feet, or thereabouts.—**ASHTON.**

3521. **Lancaster's Silver Ring Rapid Rectilinear Lens.**—Can some one kindly inform me if this is a reliable instrument; also if Lancaster's lenses are made to a gauge, so as to be interchangeable?—**SANTOS.**

3522. **Copying.**—I want to copy some photographs and drawings; how long should I expose?—**COPYING.**

3523. **Action of Fire Light.**—Is fire light likely to fog plates? I screen the fire, but there is white light reflected from the ceiling.—**LLANBERIS.**

3524. **Euryscope.**—Will some reader who possesses an 8 by 5 Optimus R. Euryscope answer me the following, and oblige? What are its covering powers at $f/6$, $f/8$, and $f/16$? Has it as great depth of focus as a R.R.? Has it any advantages or disadvantages as compared with a R.R.?—**R. A. KADELBACH.**

3525. **Elimination of Hypo.**—Can you tell me if the following, which I discovered in a book, is a good method? For removing hypo after being in fixing bath, the prints are immersed in a saturated solution of alum for two or three minutes, then washed in several changes of water for five or ten minutes, when they are finished.—**HYPO.**

QUERIES UNANSWERED.

- Jan. 3rd.—Nos. 3339, 3347, 3348.
10th.—Nos. 3353, 3356, 3367.
17th.—Nos. 3359, 3372.
24th.—Nos. 3386, 3392.
31st.—Nos. 3410, 3414.
Feb. 7th.—Nos. 3417, 3422, 3430, 3435.
14th.—Nos. 3437, 3441, 3452, 3454, 3456, 3457,

- 21st.—Nos. 3462, 3464, 3465, 3466, 3468, 3469, 3471, 3472, 3473, 3476, 3477, 3478, 3479, 3484, 3485, 3487, 3489, 3490, 3491, 3493, 3494, 3495, 3499, 3500, 3501.

ANSWERS.

3354. **Honeycomb Frilling.**—The plates were possibly stale, or you left them too long in the fixing bath.—**E. J. FEILDEN.**

3459. **Fancy Bazaar.**—No.—**E. J. FEILDEN.**

3359. **Fancy Bazaar.**—Selling photographs at a bazaar for church restoration fund, provided you made no profit on the sale, could not disqualify you from taking part in amateur competitions. Read the recent articles and correspondence on the "Amateur Question."—**THE SMITH.**

3354. **Pizzighelli Paper Staining Plate.**—If your negatives are stained from the platina paper, you may consider the case hopeless. If only pitted by the rain-drops, a ten minutes' soaking in water, and the flooding them in methylated spirit, will improve them.—**E. J. FEILDEN.**

3370. **Condenser.**—Your query has been answered by the correspondence. What you ask is not a difficult performance, but it is not good at its best.—**E. J. FEILDEN.**

3371. **Covering Power of Lens.**—If the lens be only 2 ft. from the sitter the resultant portrait would be fearfully distorted. Shorten the camera, and take a smaller picture. A 2 in. head should not be taken with a lens of less than 12 ins. focus.—**TAM SMITH.**

3375. **Model Camera.**—The camera you mention is sold, I believe, by J. Braine, 22, Bedford Terrace, Andover Road, N.—**THE SMITH.**

3376. **Magnifying Lantern Slides.**—I cannot give the address asked for, but a somewhat similar apparatus for the same purpose is sold by Mr. Tyler, Aston, Birmingham.—**THE SMITH.**

3373. **Depth of Focus.**—Make a paper or cardboard tube of the same diameter (inside) as your lens, and about half as long again, and blacken it inside. The lens should be fixed in one end by means of narrow strips of thin cork glued on inside, and then the tube be wrapped with soft, thick blotting paper until it will fit a flange in your camera front. Black cardboard stops may be made to fit the other end of the tube, and the image can then be studied on the ground-glass with any aperture you wish.—**THE SMITH.**

3379. **Fallowfield's Facile Camera.**—The issue of February 21st contains numerous replies to a query similar to yours.—**E. J. FEILDEN.**

3383. **Focus.**—By taking out the back combination of the longer focus lens, and slightly separating the components, the focus will be shortened at the expense of a little definition, which may be remedied by stopping down.—**THE SMITH.**

3385. **Dust on Negative.**—I imagine it is the reflected light from the dust particles flying about the room, or else your plates have been kept in an impure or damp place. Try the magnesium flash-light.—**E. J. FEILDEN.**

3389. **Burnishing.**—You will require a burnisher. After your prints are mounted apply Castile soap, 5 grs. to the ounce of methylated spirit (*vide* "Dictionary of Photography"), allow them to dry, and then pass through the burnisher.—**E. J. FEILDEN.**

3393. **Lantern Jet.**—Perken, Son, and Rayment, Hatton Garden, E.C.—**E. J. FEILDEN.**

3401. **Taking Houses, etc.**—You cannot possibly go close to a building and take the ground and roof at the same time. The size of the building and the ground behind you must be your guide.—**E. J. FEILDEN.**

3401. **Taking Houses, etc.**—Try taking the views from a more distant point, and if you must tilt your camera, you also must use the swing-back to bring the plate exactly vertical. You would probably do better work with an ordinary rapid rectilinear lens.—**THE SMITH.**

3403. **Lens.**—The larger the lens the greater the angle of view.—**E. J. FEILDEN.**

3403. **Lens.**—In a general way, yes. A lens of 5 in. focus will take the same angle on a quarter-plate as a lens of 10 ins. on a full plate.—**THE SMITH.**

3405. **View Meter.**—The measurements are as follows:—Fig. 1., slot, 1 in.; aperture, $2\frac{1}{2}$ by $1\frac{1}{2}$; outside, $3\frac{1}{2}$ by 3. Fig. 2, 7 ins. by 1 in. Fig. 3, $1\frac{1}{2}$ in. by 1 in. Diameter of outer circle, $\frac{1}{4}$ in.; inner ditto, $\frac{1}{8}$ in.—THE SMITH.

3406. **Lantern Slides.**—A matter of taste—but the pyro developer is the most difficult, in my hands, to get good results from.—E. J. FEILDEN.

3406. **Lantern Slides.**—Hydroquinone is the best all round, and if you use either the Thomas or Ilford formula you cannot fail to get good results with reasonable care.—THE SMITH.

3409. **Intensifying Negatives.**—Soak the negative first. Use sulphite of soda instead of ammonia.—E. J. FEILDEN.

3412. **Enlarging.**—The "Clamond" incandescent burner would probably suit you. The heat is considerable, but it is the most powerful gas light I have seen.—THE SMITH.

3421. **Background.**—The effect you mention is obtained by a graduated background, or by using a neutral-tinted one and vignetting.—THE SMITH.

3421. **Background.**—What sort do you want? Second part of question. What do you mean?—E. J. FEILDEN.

3429. **Cistern for Dark-Room.**—No; but it is better to paint the inside of can with Brunswick black.—E. J. FEILDEN.

3431. **Ventilation of Dark-Room.**—If the querist will write me I will send a sketch.—THE SMITH (address with Editors).

3431. **Ventilation of Dark-Room.**—It is almost impossible to answer your query without a ground-plan of the room, and knowing how much you care to spend.—E. J. FEILDEN.

3434. **Fixing Prints.**—Just sufficient to cover it. In a straight-edge half-plate dish, 2 ozs.—E. J. FEILDEN.

3438. **Aristotype.**—What do you mean?—E. J. FEILDEN.

3440. **Set of Apparatus.**—If H. C. Durnford gets a quarter or half plate Instantograph, he will find he has something serviceable and a credit to him. Cheap sets which are advertised are no use. Respecting Lo. ker's hydroquinone developer, as a beginner he cannot do better; I have used it sometime; although in one solution, it is capable of sufficient adaptation to meet the extremes of over and under exposure; see instructions on bottle. It is equally good for developing bromide paper, transparencies, and lantern slides. It gives good black and white negatives. If "H. C. D." will write to me I shall be able to give him more particulars respecting both.—W. DREW (address with Editors).

3445. **Opals.**—If you mean print-out opals, it is advisable to have a special frame. They are printed and toned in the same manner as albumenized paper. The plates may be obtained from most of the best plate-makers.—E. J. FEILDEN.

3449. **Granularity in Emulsions** is caused by adding the silver nitrate too quickly and in too strong a solution. 60 grs. of silver nitrate to 1 oz. of water is about the right strength the solution should be. Add in portions, and shake well each time. A better result may be obtained by adding 20 minims of dilute hydrochloric acid (1 of acid in 100 water) to each pint of emulsion. If both of the above directions are followed, a finer precipitate cannot be obtained. I don't think it is possible to cure the granularity, and should advise Mr. Woodland to recover the silver from any emulsion that he cannot use.—J. F. CHILD.

3451. **Lantern Slides.**—The respective distances of negative and plate will be 38 ins. and 12 ins. (approximate), which will reduce to one-third size.—THE SMITH.

3453. **Bromide Papers.**—There seems to me only one way of filling up your bottles, and that is to make more of the solutions. If you have lost the formula, why not say so? I will send you the detail if you require them.—E. J. FEILDEN (address with Editors).

3458. **Water.**—"Ordinance" may obtain practically pure (aerated) water from all waters hardened by bicarbonate of lime, by boiling and filtering through a fresh ball carbon filter. As soon as the water begins to lose its fresh taste, after filtration, the ball will require to be rebaked, which the maker will do for a small charge. "Ordinance" can test whether his water is hardened by bicarbonate of calcium or not by adding a little clear lime water to some of the cistern water, and if any milkiness is produced, bicarbonate of lime is present. The boiling will free all such water of the lime, and the filtering will aerate it again. I should not advise any chemical methods, as they require the experience of a practical chemist.—J. F. CHILD.

3461. **Camera and Set.**—I would recommend "Luder" to get "Underwood's Instanto," which is sent out with lens, tripod, and time and instantaneous shutter. It is made square with reversing back, and is very compact. Price, half-plate, £1 4s., from Messrs. E. and T. Underwood, Granville Street, Birmingham.—SICILIAN.

3463. **Enlarging Apparatus.**—I should advise you to make the one described on page 119 of the "Year Book" for 1890. I have found it to be very cheap, and to answer the purpose very well. It is for enlarging by daylight.—DRY-PLATE.

3467. **Hand Camera.**—For most ordinary subjects one-fifth to one-twenty fifth of a second is quite quick enough for hand-camera exposures, and even

flower than this will give good results in some cases. I should not advise the use of Barnes's slides; each one only holds one plate, consequently to carry many plates means great bulk. Why not try the mahogany double dark slides made by Talbot and Eamer, Blackburn? They make special slides for detect eye cameras, which are very compact and light-tight.—OXIDE.

3470. **Bottles.**—Shake up a little concentrated nitric acid in the bottle until the grey deposit disappears, and then thoroughly wash with water.—SICILIAN.

3470. **Bottles.**—Try strong nitric acid for the nitrate of silver bottles.—J. F. CHILD.

3474. **Duty on Plates into Switzerland** is considerable; but I have before me a price list issued by E. Baud, 11, Rue Verdaine, Geneva, where half-plates are quoted 3-20 frs. "Ferrier-Kerr" is being imposed on, and I should advise him to write at once to Mr. Baud.—J. H.

3475. **Obenetter Paper.**—First time I have heard of Obenetter "Aristotype" paper. The formula you give is something like that published by Liesegang, but the quantities you give are altogether out of proportion. For printing-out I use Liesegang's "Aristotype" paper only, and I use a combined bath for toning and fixing, which I append, which I find gives me excellent results:—

A.				
Water	...	...	...	12 ozs.
Hypo	...	...	...	2 "
A. um	...	...	...	2 drms.
Sulphocyanide ammonium	...	...	...	1 drm.
Common salt	...	...	...	4 drms.
(Let solution stand for at least eight days, and then filter.)				

B.				
Water	...	...	...	3 ozs.
Chloride gold	...	...	...	15 grs.

Mix A, 60 parts; B, 7 parts; and add 40 parts old combined bath. For new bath I use A, 80 parts; B, 7 parts.—THE LONG 'UN.

3480. **Toning Formula.**—Please mention what kind of paper you intend using, then perhaps I may be able to assist you.—THE LONG 'UN.

3481. **Willesden Paper** and all substances in straw board, up to one-eighth of an inch thick and very cheap, of Mr. E. G. Platt, 38, Alvington Crescent, Dalston, London, N.E.—L. STRINGER.

3482. **Amateur, What may he Do.**—(1) The Editorial reply answers this. (2 and 3) At present seem matters of conscience.—E. J. FEILDEN.

3483. **Lantern Slides.**—Hepworth's "Book of the Lantern."—E. J. FEILDEN.

3483. **Lantern Slides.**—I should advise you to get Hepworth's "Book of the Lantern."—THE LONG 'UN.

3485. **Enlarging by Lantern.**—No.—E. J. FEILDEN.

3488. **Solutions.**—I should not think "G. B." would find a plain 10 per cent. solution of pyro to keep well. A developer containing potash metabisulphite as a preservative may be made by dissolving 1 avoirdupois ounce of that salt in about 6 ozs. of water, then 1 oz. of pyro, and making the solution up with water to 9 ozs. 1 drm. This will represent a nearly exact 10 per cent. solution. I have used this with Ilford's, and prefer it to any other preservative. The 10 per cent. solution of bromide is made by dissolving 1 oz. of potassium bromide in some water, and making up to 9 ozs. 1 drm. Ammonia solution likewise made by adding 1 oz. liquid ammonia to 9 ozs. of water. For Ilford's take 20 minims pyro, 25 minims bromide, 40 minims ammonia to each ounce of developer. Captain Abney, in his "Instruction in Photography," gives some formulae for dry plates, using 10 per cent. solutions.—SICILIAN.

3488. **Solutions.**—Metabisulphite of potash is not recommended as a preservative. I copy following from *Photo Scraps* of Oct. 1st:—"We have been asked to give a formula for our pyro developer in terms of 10 per cent. solutions:

(P.)				
Pyro	...	...	...	1 oz.
Water, distilled	...	...	...	to 10 ozs.
Add 20 drops nitric acid.				
(B.)				
Bromide ammonium	...	...	...	1 oz.
Water	...	...	...	to 10 ozs.
(A.)				
Ammonia, '830	...	...	...	1 oz.
Water	...	...	...	to 10 ozs.

These will all keep in stoppered bottles. To develop a half-plate correctly exposed, take P, 37 minims; B, 50 minims; A, 90 minims, and add water to make 2 ozs. of solution.—J. H.

3492. **Test Papers.**—"G. B." will find all he requires in any text-book of chemistry. Look for litmus and turmeric papers; they are the only ones likely to be required in photography.—J. F. CHILD.

3495. **Enamelling Prints.**—I have never failed in enamelling prints. I will give you an outline of my process. I obtain a sheet of glass, say about 2 ft. by 1 ft., and clean the best side with a wet leather which has been dipped into some powdered whiting. The whiting which has been left on the glass must be allowed to dry, and then polished off with a clean dry duster. A piece of cotton wool is dipped into some French chalk, and rubbed all over the glass, then with a fresh piece of wool it is dusted till none

of the powder is visible. The prints, if dry, are soaked for a minute or two in clean cold water, and laid face downwards upon the glass. The moisture is removed with a sheet of blotting paper, and each print is gone over separately with the squeegee, great care being taken that all bubbles are removed. The blotting paper is again applied, and the prints are put aside for several hours to dry.—THE LONG 'UN.

3497. **Unmounting Prints.**—Perhaps the following will suit "H. Y." I have always taken off any prints from mounts by putting a piece of wet clean blotting paper a quarter of an inch larger than the print on it, and allowing it to soak for some hours, when, on raising a corner of the print carefully, it will separate from the mount, which can then be wiped with a wet cloth and put under a weight to dry, when it can be used again.—J. H.

3497. **Unmounting Prints.**—So long as the stereo views are not printed on a gelatine paper they can be removed from the mount by soaking in moderately warm water.—SICILIAN.

3498. **Cloth for Shutter.**—Mr. Platt, 38, Alvington Crescent, N.E., can supply cloth for shutters, and in fact there is nothing but what I think he can supply you with.—L. STRINGER.

3501. **Stereoscopic Photography.**—(1) Thornton's (Manchester) Shutter, the usual Kershaw pattern, is made for stereo cameras, and works very well; price about 20s. (2) Books on stereoscopic. The only one I know of dealing specially with stereoscopic work is more a scientific text book, published by Murray, title, "The Stereoscopic: its History, Theory, and Construction," by Sir D. Brewster. In the "British Journal Almanac," 1887 issue, (by J. Traill Taylor) a first-class article on production of stereo negatives and transparencies appeared. Also in seven numbers of 1888 issue (by Wm. Chadwick) of the *Journal* you will see it as well, and find the same most valuable. I often myself wish Mr. Hepworth would give the public an exhaustive and plain handbook, a companion volume to his excellent lantern one.—T. S. MAYNE.

EDITORIAL.

NOTE.—Anyone requiring an opinion upon photographic apparatus, plates, etc., must give a number or initial for identification, as in no case will makers' names be inserted in this column.—EDS. AM. PHOT.

A. COOTE.—All the pints will be returned in about a week.

GEO. COYNNORS (Tralee).—Our publishers are sending you a specimen copy. We cannot advise you about your son. You can procure good apparatus through the AMATEUR PHOTOGRAPHER'S "Sale and Exchange" column. We publish a "Dictionary of Photography"; see advertisements. "Modern Photography" and "Photography for All" are very useful books. Your son would get on much better if he got someone to give him a few lessons.

P. R. SALMON.—The articles and chemicals are not very costly, and it is not worth risking a failure by using them. 1. Depends entirely if they are packed well. It is always best to use plates that have not been long in stock. 2. This might be all right. 3. Is probably very much reduced in strength. 4 and 5. Cannot advise you as to the keeping qualities. 6. Throw it away. The developers Nos. 1, 2, and 3 we should experiment with.

E. H. FITCH.—The specimens came safely to hand, and are noticed herein. The business part of the letter will be handed to our publishers.

LEWIS M. BIDEN.—Very sorry your Sale and Exchange advertisement was mislaid last week. It is now inserted.

YENDYS.—We certainly do not consider a chemist who sells photographic apparatus or chemicals a professional photographer.

DETECTIVE.—No. 1. There is a view finder in the camera you name, and a very simple shutter. Do not understand your reference to "two lenses." No. 2 is by far the best finished camera, and the lens you name a very much better instrument than the usual form.

REV. H. J. SIBTHORP.—We have lost track of your query; the second shutter you name in letter is the best. We have set aside Tuesday afternoons on purpose to assist and advise our subscribers. We will answer any questions through this column, provided they comply with our rule, but we cannot undertake to answer and advise by post.

W. H. A.—Why don't you use the developer given by the maker in every box of plates they send out? They certainly know which is best developer for their own plates, and the best is always the cheapest.

W. H. BANKS.—We cannot say positively, but are almost certain that the manufacture of both brands of plates has ceased.

GYLIST.—It is against our rule to advise by letter, but you can forward a list of cameras, etc. with numbers for identification, and we will tell you through this column which of them we think most likely to suit your purpose. You send us a very poor print and no particulars as to lens and plate used, exposure, etc.; send us these, and we will try and help you.

S. E. PHILLIPS.—We are unable to trace any "cottage drawings."

W. M.—We never heard of the maker you give as No. 1. No. 2 are makers, and the lens a thoroughly first-class instrument.

GEO. F. FAITH.—We suppose your prints were not suitable for reproduction. Of course it is quite impossible to reproduce every photograph.

W. K. BURTON (Tokio).—Report received and commented upon in another column.

J. T.—Excellent work is done with the camera and set you name. We have also every confidence that you would be well pleased with x.

W. H. KIRK.—We have never used or seen the camera you name, and cannot, therefore, say if a slides will fit it, but they are very serviceable. You should be able to do very good work with 3 plates.

SAUMUR.—The Exhibition opens on the 11th of March, and will remain open at least a fortnight.

BUSTACE PINKERTON.—In answer to No. 1, we have not had sufficient experience of the camera to support all the makers say of its good qualities. For ourselves we prefer the second camera you name in No. 2 query, and know that you can enlarge from the negatives up to 12 by 10.

PYRO-TYRO.—We know nothing of the man, and have stopped his advertisement in "Sale and Exchange" column; his letter is returned. The lens A is a cheap and good lens, and so is B. We have not worked with C, D, E, or F. We suppose the "removable hood" is really a sun screen.

A. R. BANNIS (Rangoon).—We thank you very much for the letter, which we shall certainly make use of.

E. SMITH (Nottingham).—Our readers are much indebted to you, and we thank you on their behalf and our own.

E. F. S.—The A plate is certainly richer in silver than B. We should prefer the C lens; it is, in our opinion, a better lens than D.

P. T.—We were very pleased with No. 2. We do not understand your second query. Do you mean "back focus" or "equivalent focus"?

DRY PLATE.—Write to the Secretary, Mr. George Breathing, Church Street, Egremont, Cheshire.

D. E. GODDARD.—When you are better, perhaps you will send us a contribution on ferrous oxalate.

W. FLETCHER.—Prints will be returned probably next week.

BUSTACE CALLAND.—Certainly, send the camera.

W. I. CHADWICK.—Many thanks for your courteous letter and explanation. You will remember to have sent us a letter as to the benefit of our stereoscopic slide competitions had been in reviving stereography.

R. SHAW.—We are still waiting instructions.

R. W. BUTTNER.—We shall be delighted to see some of your work, and will do our best to criticise the same. About "Postal Photographic Club," we cannot help you with rules, but should advise you to write us a letter for publication, as several such clubs exist. The other idea looks good.

W. EYDMANN, Junr.—No. 3 first, and No. 1 second.

E. NORTHCOTT.—Our publishers will communicate with you.

JOHN H. MONTAGUE.—Yours, if you did not follow out their instructions. If you did, it is theirs, and we should send the lamp back, and ask for a new one. We will compare your letter with Mr. Gordon's.

BORROWDALE JEWS.—In back numbers of the AMATEUR PHOTOGRAPHER you will find many such articles as you require under the heading "Holiday Resorts," and no doubt we shall continue them during the summer season. It is kind of you to send us the suggestion.

LESLIE BAKER.—Your answer is an advertisement, and should appear in Sale and Exchange Column, "three words a penny," but we have sent on your letter to our querist.

STRADIVARI.—Afraid we cannot help you much, but should advise you to use a plate rich in silver, stop down your lens, and give a long exposure in a good light. Let us know how you get on. Thanks for letter, which we publish.

J. TAYLOR.—We do not think the picture was taken in a stereoscopic camera; it is greatly over-exposed, plate probably badly fogged, and the picture generally is, in our opinion, most inartistic. We will keep the print as a specimen.

R. F. FEILDEN.—Your letter is published. With most of it we agree, and shall like to hear what others say. Put your initials; quite sufficient. Many thanks.

SANTOS.—We should buy No. 2. It is a good lens, and why pay 7s. more for the other?

CARLEAD.—Certainly, we can "honestly recommend the camera." We should say, have the higher priced lens.

CHARLES W. TOWNSEND.—In answer to 1, never use a dirty developer; it is not worth risking your negative. 2. You must only expose undeveloped negatives to red or yellow light.

R. W. S.—Certainly we will, if sent to us; please let the drawing be clear, a line drawing will be sufficient, not shaded. Glad to hear that your other idea was taken up.

R. A. HADELBACH.—The lens you have been using is a well-known portrait lens, and, as a rule,

capable of excellent work. We should think the lens was quite worth "stops." You might get them made by a smart brass-finisher; give the diameter. We should advise you to have No. 1, or you might do excellent work with No. 1 R.R. At the moment can't say whether we had portrait in Home Portraiture Competition taken with the make of lens you mention.

LLANBERIS.—Only one. As many figures as are necessary for the arrangement of your picture.

J. E. P.—"Carrickfergus Pier" is the best. Have you not touched up the high lights? It is to be regretted that you had to cut off part of the stern of the vessel and the tip of her mainmast. There is no particular fault to be found with the technique.

"Country Lane" has no merit as a picture, and very little as a photograph. Your negative is probably very thin. We should advise using larger mounts; a wide margin much assists the picture. Be careful that you get on your plate all that goes to make up a picture, and do not be impatient—the composition of a picture depends greatly upon patience.

ALPERUM.—Very many thanks for extract; we will call attention to it.

Prize Tour Competition.

In the above competition we have received the following entries:—

W. McLean Forbes	...	New South Wales
Miss Griffith	...	Littlethorpe
W. W. Whittard	...	Cheltenham
R. J. Shields	...	Mexboro
W. L. Howe	...	Beckles
W. B. Windeles	...	Long Ditton
Mrs. Co'e	...	Lewes
J. T. Black	...	Corstorphine
F. Anyon	...	Liverpool
A. G. E. Newland	...	Upper Burmah
L. W. Tindal	...	Newton Abbott
Lumley Cator	...	London
Capt. Brotherton	...	Cullercoats
R. Tindall	...	Leighton Buzzard
G. E. Galbraith	...	Stirling
F. G. Smart, M.A.	...	Tunbridge Wells.
W. H. Scott	...	Bradford
H. Day	...	Tonbridge
H. Holt	...	Southport
H. E. Allen	...	Nottingham
E. T. Zimmer	...	Anerley, S.E.
C. J. Jackson	...	St. Andrews, N.B.
J. C. Livingstone	...	Edinburgh
M. O. Forster	...	Clapham, S.W.
Paul Lange	...	Liverpool
S. H. Barton	...	London, W.

Sale and Exchange.

RULES.—Four pence for twelve words or less, and a penny for every additional three words, must be enclosed with each advertisement, together with the name and address of the sender, which must be paid for, and sent to Hazell, Watson, and Viney, Ltd., 1, Creed Lane, Ludgate Hill. Halfpenny Stamps preferred. A single figure, or group of figures undivided by letter, space, stop, or we do counts as one word; compound words count as two words.

DEPOSITS.

Deposits for goods to be forwarded on approval may be made with our Publishers, who will hold the amounts deposited until they are satisfied that the transaction has been executed to the satisfaction of both parties. Cheques and Post Office Orders should be made payable to Hazell, Watson, and Viney, Ltd. A nominal charge 1s. is made of whether a sale is effected or not.

N.B.—Trade Advertisements cannot, under any circumstances, be inserted in this column. Such advertisements can be inserted elsewhere at the Trade Sale, which may be obtained on application to Parry and Crawford, 1, Creed Lane, Ludgate Hill, London, E.C.

"Amateur Photographer," vols. vii., viii., ix., x, AMATEUR PHOTOGRAPHER, with indexes, unbound; what offers, cash, or photographic apparatus?—23, Carisbrooke Road, Walthamstow, N.E.

AMATEUR PHOTOGRAPHER, 133 numbers to date; also Photography, 64 numbers, clean, unbound; exchange, background, paper or other, or 9s. cash.—Sears, 7, Northrop Street, Grosvenor Square, W.

Vols. vii., viii., and ix. of AMATEUR PHOTOGRAPHER, unbound, best offer; Optimum view finder, cost 2s. 6d.; price 2s. 6d.; Veve's dropping tube, flash-lamp, and magnesium powder, 1s. 6d.—F. P. Heath, Strickland Place, Kendal.

Apparatus.—Declining photography. Following for disposal: McKellen's 6½ by 4½ camera, 4 backs, all extras, and tripod, cost £15, take £10; Thornton's tourist 6½ by 4½ camera, 3 backs, tripod, etc., cost £3, take £2; Middlemiss's 8½ by 6½ camera, 3 backs, £5; Sands and Hunter 5 by 4 camera, cost £7, take £1; Marion's miniature camera, cost £4, take £2; Stirn secret camera, cost 35s., take 20s.; Ross's 6 by 5 R.S.,

75s. (new), Laverne's 8 by 5 R.R., cost £5, take £3; 10 by 8 R.R., £5; Optimus 7 by 5 R.R., 35s.; cabinet lens, cost £14, take £7; C.D.V., cost £4, take £2; Rouch's tent, cost £7, take £3; burnisher, cost 43s., take 30s.; backgrounds, head rest, furniture, frames, dishes, plates, etc.; list sent, state wants, all articles perfect and nearly new, week's approval, exchange entertained.—Photo, 21, Wakefield Road, Dewsbury.

Camera.—Rouch's Eureka detective, in case, nearly new, cost £7; price £1 10s.—Ellis, 7, Park Village West, N.W., where it can be seen.

Half-plate camera, by Lancaster, 1889 patent, reversible back, double slide, nearly new, has given splendid results; £2 14s.—P. Galley, Fern House, Murchison Road, Leyton, Essex.

Lancaster's quarter-plate Merveilleux camera, nearly new, with dark-slide; price 12s.—Vicar, Rushall, Scole, Norfolk.

Griffith's lantern-slide making camera, whole-plate size, new; 10s.—Guthrie, 7, Pitt Street, Leith, N.B.

Lancaster's 1889 Instantograph, packed; postal order 12s. 6d.—Letters, Volunteer, 53, Percival Street, Clerkenwell.

Enlarging camera (Lancaster's), £3 3s., nearly new, for £2 2s., bargain.—Cecil Wood, Ilfracombe.

Camera, etc.—Stirn's vest camera; cash or exchange; also whole-plate lens (Underwood).—Hardwich, Wells, Somerset.

Camera, Lens, etc.—A £12 hand-camera, with six double backs, 5 by 4 Ray lens, good condition; price £6 6s.—Can be seen at Swift's, 81, Tottenham Court Road, W.

Camera, Shutter, etc.—Quarter-plate Sciopticon camera, long focus, with six double slides, and enamelled leather case, very light, with Manx stand, cost £5 14s. 6d.; price £4 4s.; also Serjeant's shutter, 1½ in., 15s.—2, Carlyle Villas, Verner Road, Sydenham.

Camera, Stand, Slides, etc.—Camera, 5 by 4; folding stand, 3 dark-slides, printing frame, etc.; proof sent; very cheap; 33s. 6d.—Irvingstone, Birchington, Kent.

Detective Camera.—Watson's quarter-plate detective camera, with three slides, as good as new; £7.—A. Parkes, Ardiles, Dundrum, co. Dublin.

Kodak detective camera, equal to new, cost 105s.; price 75s.; or exchange with little cash for R. half-plate Universal lens.—Bygrave, 15, Canterbury Road, Brixton, S.W.

Hand-Cameras.—Quarter-plate, Rouch's Eureka, very little used, cost £8 12s. 6d.; price £5; approval by arrangement.—B., 24, Talbot Street, Southport.

Facile hand-camera for sale (new). Wanted half-plate W.A. lens, 4 in. focus.—Wignall, Rose Villa, Bisham Gardens, Highgate, N.

Fret Saw.—Exchange Rodger fret saw machine good working order, for detective camera lens.—Smith, 48, High Street, Morley, Leeds.

Lantern.—Iron lantern, 4 in. condensers, good double lens, 3 wick lamp, nearly new, and in perfect condition, in case; £2 5s., or offers.—Howard, 117, Belmont Road, Liverpool.

Lantern and Condensers.—Dissolving view lantern, mahogany body, solid brass fronts, 6 in. condensers, complete in case; only £5.—Apply, Lewis, Photographer, Reading.

Lenses.—Voightlander's 5 by 4 Euryscope, rapid, new, cost 75s.; price 55s.—Bygrave, 15, Canterbury Road, Brixton, S.W.

Beck R.R. lens, 8 by 5, new; price, £3.—R. Woolman, Palmerston Street, Stockton-on-Tees.

London Stereoscopic Company's £8 8s. half-plate portrait lens, new; £5.—B., 9, Kimberley Road, Stockwell, London.

Half-plate instantaneous lens, Iris diaphragms, as new, 13s.—Spurrell, 6, Tavistock Place, Plymouth.

Ross's rapidly symmetrical whole-plate lens and stops; £1. Optimus half-plate portrait lens and stops; £2.—Brodie, 113, Fenchurch Street.

Splendid cabinet portrait lens, by Robinson, Paris, exchange quarter set, or sell; 35s., or offers. Pretty exterior background 8 by 6, linen, on roller; 12s. 6d.—Tooth, Caldecott Street, Rugby.

Capital half-plate rapid rectilinear; approval. What offers over 20s.?—Snell, 2, Canning Street, Nottingham.

Exchange excellent carte lens, by Squire, for half-plate view lens, by good maker.—Arthur Norman, St. Oyth, Essex.

Exchange 5 by 4 rectilinear, and quarter-plate portrait lens and cash for whole plate rectilinear or Instantograph.—Day, 35, Berger Road, Homerton.

Half-plate R.E. lens, by Marion; 30s.; cost double; approval; deposit.—Logan, St. Oswald's House, Tenby.

Dallmeyer's B 2 portrait lens, list price, £12 16s., for indoor portraiture; price, £5 10s.—Jno. Daniell, New Road, Llanelli.

Whole-plate Ross symmetrical, condition as new; 105s. Half-plate International set; 70s.—Palmer, Solicitor, West Hartlepool.

Photographic Apparatus.—Nine-cell dark-room electric lamp, in polished mahogany case, and plated fittings, very handsome, size 6 by 6 by 10 ins., cost £2 10s., take £1; perfect, almost new; Taylor's patent photometer for calculating exposures, cost £3, take £1; 2 dozen Wolfe's negative boxes, each box holds twelve half-plate negatives, take 8s. the

lot; the most compact way of storing negatives. What offers for Underwood's City detective camera, cash only?—Professor de Frere, Cambridge Street, Tunbridge Wells.

Roll-Holder.—Eastman's whole-plate roll holder, quite new; cost 85s., price 65s., or exchange with cash for Ross's half-plate Universal lens.—Bygrave, 15, Canterbury Road, Brixton, S.W.

Set.—For sale, Lancaster's best whole-plate camera, 3 double dark-slides, Ross's lens, stand and case, good as new; lot £2; price double.—30, West Ham Lane, Stratford.

Quarter-plate Lancaster's International camera, Optimus 5 by 4 R.R. lens, two slides, case and stand in almost new condition, also rolling press with plate 1½ by 6; what offers?—E. A. Mansfield, 140, Great Clowes Street, Manchester.

Mahogany half-plate, long extension camera, double swing and reversing back, rising and falling front, three double mahogany dark slides, nearly new, and canvas case; price £4.—M., 42, Museum Street, Bloomsbury, W.C.

Half-plate camera, Sharp and Hitchmough, latest improvements, double extension, turntable top 4-fold tripod, 3 slides, 3 B Suter lens, and detective case combination; cost £18 18s.; price £12 12s.; Kodak with sixty exposures, £2 12s. 6d.—6, Montford place, Kennington Green.

Complete whole plate set to be sold very cheap; approval, deposit.—Evans, Minehead, Somerset.

Leather camera case for half-plate long-focus camera, takes also 3 slides, lens, shutter, and cloth; hand and shoulder straps, black outside, lined baize, 3 divisions, lock; condition as new; price only 15s.; approval on deposit.—Baxter, Bramley, Leeds.

Whole-plate exhibition camera, reversing frame, ditto Optimus rectilinear lens, Marshall's whole-plate drop-shutter, Mayfield's time shutter, Wood's whole-plate tripod, two double backs, price £10; Newman's quarter shutter, 163.—Wilfrid Powell, Rotherwood, Sydenham Hill, S.E.

Lancaster's 1887 half-plate Instantograph, four double slides, Optimus R.R., and Lancaster's W.A. lenses, tripod, cases, etc.; also half-plate hand camera for use with Optimus lens and slides, under and shutter; all in good condition; cost over £10; price 6 guin.; approval.—Turnell, chemist, Stroud.

Lancaster's special 1888 camera, 7½ by 5 rapid rectigraph lens, tripod, 2 double backs and other

accessories, nearly new, for £3; cost without accessories £10.—Trathan, 46, Freke Road, Lavender Hill, (or War Office, Pall Mall, by appointment).

Instantograph camera, half-plate, 1890, very finest order, long extension leather bellows, all improvements, fitted rapid rectilinear lens, Waterhouse stops, covers plate well, cork slide, quarter carrier and folding tripod, complete, £3 15s.; approval.—C. Carlross, 74, Hercules Buildings, Westminster Bridge Road.

Lancaster's 1889 half-plate Instantograph camera, double slide, tripod, and rapid rectilinear lens, f/8, with set of Waterhouse stops, quite new; bargain, 72s. 6d.—John Slade, Slad Road, Stroud, Glos.

Lancaster's Meritoire quarter set, complete; also good portrait lens, three double dark-slides, will sell or exchange for carpenters' tools. Wanted, for a half-plate 1888 Lancaster's Instantograph camera, three double dark-slides, also Thornton-Pickard time and instantaneous shutter, for 7 by 5 R.R. Optimus.—James Cottingham, 23, Station Row, Parkgate, Rotherham.

Whole-plate camera, screw adjustment, double dark-slide, stand, Optimus rectilinear and 9 by 7 symmetrical lenses, in perfect condition; 130s.—Dover, 8, Clifton Street, Wandsworth Road, London, S.W.

Camera, quarter-plate Instantograph 1889, all latest movements and improvements, reversing back, Instantograph lens and shutter, Iris diaphragms, slide, and folding stand, condition as new; 37s. 6d.; approval.—Green, 119, Willmott Street, Three Colt Lane, Cambridge Heath.

Superior set of slides on botany, hand-painted by Carpenter and Westley, 60 subjects, with lecture; price £2. Also a number of effects slides.—Lewis, Photographer, Reading.

Shew's adapter to half-plate camera, to take 10 by 8 pictures, with one double slide, 25s.; 10 by 8 rectilinear lens, £2; half-plate R.R. lens, £1; tripod for heavy camera, 10s. Wanted, half-plate wide-angle view lens.—Address, Upstairs, 12, Eckstein Road, Clapham Junction.

Special Bilcliffe camera, best make, use as quarter or half-plate, 11 double backs, four-fold stand, three Taylor's lenses, Iris diaphragms, bayonet flanges, R.R., W.A.R., both 8 by 5, landscape 5 by 4, Funnell's shutter, three cases, etc., cost £25. Seven vols. AMATEUR PHOTOGRAPHER, with binding cases, and

"Photography" to date, 100 "British Journals," 50 "Photo News," "Year Books," etc.; what offers?—Bostock, Eagle Mills, Manchester.

Watson's quarter set, long-focus camera, 3 double backs, R.R. lens, Kershaw shutter, sliding tripod, and solid black case, almost new; cost £10; price £5, or sell separately or exchange.—Lea, A. helpmpton, Dorchester.

Shutter.—Phantom shutter, ebonite, pneumatic release, 2½ in. hood or under; cost 27s.; price 15s.—Jno. Daniell, New Road, Llanelli.

Silver Watch.—Silver lever watch, excellent time-keeper (Waltham), offered for good quarter-plate or lantern-size hand-camera, or what offers?—Artist, Chronicle Office, Northwich.

Sundries.—Two half-plate Instantograph dark-slides, 14s.; Ashford's latest tripod, revis-d. half-plate, three-fold and sliding, 15s., cost 25s.; 7 vols. AMATEUR PHOTOGRAPHER, offers. Wanted, quarter camera and slides.—Wardleworth, Tailor, Blackley, Manchester.

Tandem.—Olympia tandem, in excellent condition, with lamp, bell, and valise; £19.—Bygrave, 15, Canterbury Road, Brixton, S.W.

WANTED.

Camera.—Loan (on hire, or with view to purchase) is desired for a month at Easter of a good hand-camera, suitable for foreign travel. Kindly describe disadvantages.—Letters to Mr. Biden, 11, Leadenhall Street, London.

Detective Cameras.—A hand or detective camera.—Franklin, Castle Street, Shrewsbury.

A good quarter-plate detective camera, the Eureka, by Rouch, preferred.—Kilby Mayfield, Bishopswood Road, Highgate, London, N.

Lantern.—Wanted Hughes's Paphengos, in good condition, for cash.—H. Cooper, Photographer, Northampton.

Lens.—Ross's rapid symmetrical, 6 by 5; cheap.—Snell, 2, Canning Street, Nottingham.

Negatives.—A few good half-plate landscapes and seascape negatives.—Send price to W. B., 49, Freshney street, Grimsby.

Roll-Holder.—Eastman roll-holder, quarter-plate, must be in perfect condition, for prompt cash.—Box 25, Post Office, Bradford.

Set.—Wanted in exchange for good violin, quarter Instantograph camera 1889, or good lens.—Trigg, 31, Bernard Street, Southampton.

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"AMATEUR PHOTOGRAPHER" PRIZE TOUR COMPETITION, 1890.

(FIFTH YEAR.)

Competitors' work will be exhibited at the Crystal Palace Photographic Exhibition.

PRIZES.

FIRST PRIZE:

"AMATEUR PHOTOGRAPHER" GOLD MEDAL.

<i>Second Prize</i>	£4 4 0 and Silver Medal.
<i>Third</i> "	3 13 6 " " "
<i>Fourth</i> "	3 3 0 " " "
<i>Fifth</i> "	2 12 6 " Bronze "
<i>Sixth</i> "	2 2 0 " " "
<i>Seventh</i> "	1 11 6 " " "
<i>Eighth</i> "	1 1 0 " Certificate.
<i>Ninth</i> "	15 0 " "
<i>Tenth</i> "	10 6 " "

All photographs and MSS. must be endorsed "Prize Tour Competition," and addressed to the

Editors, AMATEUR PHOTOGRAPHER,
1, Creed Lane,
Ludgate Hill, London, E.C.,

on or before the 28th of February, 1890.

NOTE.—A copy of rules, form of declaration, and competitor's form will be sent on receipt of stamp.

THE FORTH BRIDGE.

In view of the interest taken by all engineers, students, and others in the Forth Bridge as a triumph of engineering skill, the proprietors of the AMATEUR PHOTOGRAPHER have pleasure in offering the following Prizes for the Best and Second Best Set of Four Photographs:—

<i>First Prize</i>	Silver Medal and £1 1s. 0d.
<i>Second Prize</i>	Bronze Medal and 10s. 6d.

Photographs must be sent in on or before Monday, the 10th of March. This date will permit of photographs of the Opening Ceremony, which is to be performed by H.R.H. the Prince of Wales on the 4th of March.

The proprietors will require the use of the negatives of the prize photographs. If any competitors are willing to leave their prints in the hands of the Editors of the AMATEUR PHOTOGRAPHER, they will have pleasure in circulating them amongst the photographic societies.

All Competitions to be addressed:—"Forth Bridge Competition," The Editors, Amateur Photographer, 1, Creed Lane, Ludgate Hill, London, E.C.

"AMATEUR PHOTOGRAPHER" MONTHLY PHOTOGRAPHIC COMPETITIONS.

THE PROPRIETORS OF THE AMATEUR PHOTOGRAPHER will offer, Monthly, two prizes, consisting of a

SILVER AND A BRONZE MEDAL (WITH RIBBON AND CLASP)

for the best and second-best photographs sent in to each of their Monthly Competitions. The subject of the Competitions will be as follows:—

LANDSCAPE OR SEASCAPE	...	Feb. 14	...	June 14.
LANDSCAPE WITH FIGURE	...	Mar. 14	...	July 14.
GENRE OR FIGURE STUDY	...	April 14	...	Aug. 14.
INSTANTANEOUS PHOTOGRAPHS, ANIMALS, ETC.	...	May 14	...	Sept. 14.

All photographs for any of the above competitions must be received by the

FOURTEENTH DAY OF THE FOLLOWING MONTH,

and as received will be acknowledged in the columns of the AMATEUR PHOTOGRAPHER.

Entry forms on receipt of stamped addressed envelope.

"AMATEUR PHOTOGRAPHER" MONTHLY COMPETITIVE PAPERS, 1890.

THE following Prizes are offered for competition every month:—

Three Prizes of £1 1 0 each.

Three Prizes of 0 10 6 each.

And Three Certificates.

The Papers must not exceed 1,000 words; and those which are awarded Prizes will be published in the AMATEUR PHOTOGRAPHER; others will be selected, and will be arranged for publication in the

"AMATEUR PHOTOGRAPHER'S ANNUAL."

Contributions are to be upon the subjects as list given below; and in order to make the matter more interesting, it is requested that each competitor shall give his personal experiences. It is intended that each subject shall be written up by a specialist for the ANNUAL, and the latest information given. All MSS. must be received not later than the

28TH OF EACH MONTH.

Subjects.

28th February	...	Apparatus.
28th March	...	Optics.
28th April	...	Action of Light.
28th May	...	Exposure.
28th June	...	Plates and Films: Their Development and After Treatment.

All MSS. to be addressed to the Editors, "Amateur Photographer," 1, Creed Lane, Ludgate Hill, London E.C.

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New Descriptive Catalogue of Photographic Lenses and DALLMEYER'S LENSES and CONDENSERS SPECIALLY CONSTRUCTED FOR THE OPTICAL LANTERN, will be POSTED FREE ON APPLICATION.

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Rapid,

All Amateurs should use them.

Rich in Quality,

Inexpensive,

To be had of all Photographic Dealers.

Reliable.

ELLIOTT AND SON, Park Road, Barnet, Herts.



VOL. XI. No. 283.]

FRIDAY, MARCH 7, 1890.

[PRICE TWOPENCE.]

✻ OUR VIEWS. ✻

"To hold as 'twere the mirror up to nature."—Shakespeare.

IN another column we announce short notice of the AMATEUR PHOTOGRAPHER, 1890, Travelling Studentships. Full particulars as to conditions for competitors and the conditions for prize winners, regulating the tours and their photographic work will be ready shortly, and application should be made by letter. The three subjects set for competition are, in our opinion, of about equal value; we mean that photographic work in either of the three subjects will require the same standard of ability. The first three prizes offered are intended to recoup, or partly so, the winners for the expenses they will incur in taking a photographic tour, and is based upon a payment to them of £7 per week.

We trust the offer that we have made will induce many amateur photographers to enter the competition and send us their best work. The idea of paying the expenses of a trip with camera, etc., has certainly the merit of novelty, and we feel sure that the prize winners will find much pleasure in allowing us the privilege of publishing prints from the negatives taken during their holiday in the summer of 1890.

* * * *

OUR apologies are due to the contributors to our "Monthly Competitions," for the non-publication of awards. The heavy work in hand just now preparing for the Exhibition must be our excuse.

* * * *

A VERY capital exhibition was opened at Kidderminster last Saturday. Some 800 pictures were exhibited. Local work was not as strongly represented as we should like. The AMATEUR PHOTOGRAPHER Silver and Bronze Medals were awarded for the work of members of the Worcester-shire Camera Club, and we trust that another year even more may enter in competition for them. There was one class, "Genre Study Competition," a fixed subject being given, "The Vicar and his Guests," in which, notwithstanding the fact that this competition with others of a similar character have been persistently advertised in the columns of a contemporary, for some nine months, they

offering their silver and bronze medals, there was no entry. The marvel to the judges (Messrs. Harrison and Hastings) was that neither the editor nor sub-editor of our contemporary competed. But some judges have a nasty way of not allowing themselves to be coerced into making awards.

* * * *

SOME few weeks since we announced our intention of offering prizes for a "Ladies' Photographic Competition." In another column we give particulars of prizes, conditions, etc. As already stated, we shall hope to exhibit the photographs at our offices during the month of June.

* * * *

WE are advised by our publishers that AMATEUR PHOTOGRAPHER "Prize Pictures" No. 1 is nearly out of print. We are pleased to be able to add that the commercial success of the "new departure" is sufficient to warrant our issuing further numbers, and we shall announce particulars at no distant date. Of course, it was not to be expected that the AMATEUR PHOTOGRAPHER "Prize Pictures" would find favour at the hands of all our photographic contemporaries. One gives us credit for imitating *Sun Artists*: we would ask, even if that were so, where's the sin? But the ignorance of the reviewer in making such a statement is shown by almost the next sentence; he says, "Which are reproduced evidently in *collotype* and mounted on thick paper." For his information we would add that they are reproduced by what is known as the Woodbury process, and that it is not general to *mount* collotype prints. This wiseacre proceeds to say that four, out of five, "subjects are good," and concludes by adding, "We can only say that if they are put forth as specimens of prize work—indeed, the pick of amateur photographic productions—amateur photographers are not honoured thereby." What presumption for such an ignorant scribbler to place his judgment above that of J. R. Herbert, R.A., A. M. Rossi, and H. P. Robinson!

Another reviewer is of opinion that, "if these five pictures had been reproduced by photo-etching or direct platinum print they would have been inestimably better." We thank both of our contemporaries, and will try and

derive benefit, and profit from their advice, but shall issue "Prize Pictures" No. 2 with illustrations by the Woodbury process.

* * * *

WHILST upon the vexed point of illustrations, we cannot refrain from drawing attention to the very admirable print published as a supplement to the *Photographic Art Journal*, a reproduction of a picture "Great Yarmouth Harbour," by Dr. P. H. Emerson, photo-etched by himself. The print is the work of Mr. Walter Colls; it is one of the best we have seen, and far surpasses those issued with No. 2 of *Sun Artists*. The photograph happens to be one taken by the Doctor either before he had the "Naturalistic" fever, or, perhaps, having recovered from the malady, it has been taken since. There is not the least suspicion of fuzziness, and the picture is extremely beautiful.

* * * *

THE "Home Portraiture" number is now published, and although it may not give entire satisfaction to all, it will, we trust, be found a very useful addition to illustrated photographic literature.

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WE have asked the judges in the recent "Lantern Slide Competition," to re-consider their awards in Class II., "Collodion Process," and will publish the result in our next issue.

* * * *

THE number of competitors in the "Prize Tour Competition" are fewer than last year. This was to be expected, because the conditions are much more stringently drawn up. In several cases we have been compelled to refuse to receive the photographs sent us, because the conditions were not complied with. A very excellent set of pictures, entered by a prominent and successful amateur worker, were returned because he did not consider it necessary to comply with our conditions. In all, there are between forty and fifty entries, and we shall show nearly all of them at the Crystal Palace Exhibition, some 400 frames. As a whole, they are the best that have been sent us, and will, we are sure, contribute to the general interest of the Exhibition.

Our invitations for the Crystal Palace Exhibition will be sent out by the end of the week, and we hope that as many as possible will be present on Friday, the 14th inst. "Afternoon tea" will be served immediately after the lantern show. We understand that the lantern is a very powerful one, and that lenses have been made specially for this year's show, which will be under the care and entire direction of Mr. Brooks. Messrs. Peasgood and Wollaston have, we understand, every reason to be satisfied with the entries, both in the apparatus and art section. The Exhibition will be a most brilliant success. For ourselves, and our contributors in both "Prize Tour" and "Lantern" Competitions, we are deeply grateful for the opportunity of showing the public the admirable work contributed to the AMATEUR PHOTOGRAPHER Competitions.

* * * *

THIS week we commence another novel feature, *i.e.*, "ScienceNotes." A column more or less will be devoted to this purpose every week, and efforts will be made to give the very latest information on the science of photography and its application to spheres of usefulness outside the art of

picture making. Some will recognise the contributor under the very thin disguise of his *nom de plume*, and will be quite satisfied that the work will be done well; to those not so fortunate we can only give our assurances that he is capable of the task set before him, and will keep us well posted up in scientific and practical photography.

* * * *

IT is intended to make several changes in the PHOTOGRAPHIC SOCIETIES' REPORTER. The work of societies will be commented upon by the Editor. Matters of interest to members of societies will be noticed, the work of advising and criticising will be extended, and, in fact, every possible assistance will be rendered to members of photographic societies, whether professional or amateur. The Editor will advise as to drawing up of rules, alteration of rules, conditions of competitions, judging and reporting upon members' work, selection of apparatus, fitting up of dark-rooms, studios, etc., etc.

* * * *

MATTERS are pushing on at Liverpool. If the Photographic Association get the same support from the Liverpool Corporation as they did last year, and secure the Walker Art Gallery, it will be the first step to success. We hope arrangements will be made for cheap railway tickets from London and all principal towns.

* * * *

WE are pleased to be able to announce that, although we cannot give the readers of the PHOTOGRAPHIC QUARTERLY either of the pictures voted for by coupon, Mr. H. P. Robinson has kindly consented to allow us to reproduce his very celebrated picture "He never Told his Love." It is our intention to reproduce this picture by the Woodbury process, and we hope to be able to give a far more truthful rendering than do those which have recently been reproduced by photogravure. Whilst on the subject of the QUARTERLY, we may mention that the following articles, for the April number, are in the printers' hands:—"Is Retouching Immoral?" by Alfred Paterson; "Photogravure and Heliogravure," by P. G. Hamerton (Editor of the *Portfolio*); "The Optical Lantern as an Aid in Teaching" (illustrated), by C. H. Bothamley, F.I.C., F.C.S.; "Photography of the Sky at Night," by Captain W. de W. Abney, C.B., R.E., D.C.L., F.R.S., etc.; "A Phase of Naturalistic Focussing" (illustrated), by H. Dennis Taylor; "In the West Country" (illustrated), by William Gibbons; "The Limits and Possibilities of Art by Photography," by George Davison. In addition to the illustrations already referred to, we have pleasure in stating that a portrait will be given of Mr. George Davison, the courteous Hon. Secretary of the Camera Club. It will, we think, be admitted that the standard of excellence already reached by the PHOTOGRAPHIC QUARTERLY will be maintained in the April number.

* * * *

PHOTOGRAPHS IN COLOUR.

EVERY experimental photographer has had the question addressed to him, "When are you going to give us photographs in all the varied colours of nature?" The question is not an unnatural one, for to most minds it would appear that science has achieved far greater marvels than this. The electric telegraph, which flashes its messages from continent to continent, and girdles the world in

less time than the forty seconds which formed the poet's dream, has become such a part of our everyday lives that we cease to regard it as a wonder. The telephone and phonograph, with their reproduction of the sounds of the human voice, are later marvels to which we are gradually getting accustomed, and, compared to them, the production of a picture in colour would seem to be quite a secondary matter. The conscientious photographer when tackled on the subject, feels inclined to waive it. He is aware that certain experiments made long ago by Becquerel and others have given indications of colour upon a surface sensitive to light, and he also has in his mind the opinions of descriptive writers, who on many occasions have let their imaginations run riot, and have written of photography in colour as a discovery which is bound to come sooner or later. He is thus constrained to give a vague reply to the question addressed to him, and either shakes his head with a meaning air, as if he could tell you a great deal about the matter if he only cared to, or he is honest enough to confess that he does not know.

The dream of photography in colours has haunted many people of imaginative mind ever since sun pictures became possible. We may be quite sure that Daguerre, whose profession as a scene painter led him to use the camera obscura as an aid to sketching from nature long before he attempted to fix its beautiful images, allowed his mind to dwell on the possibility of finding a means to render those images permanent in all their natural tints. And it may have come as a surprise to him later on, when accident showed him how their forms could be impressed upon a silvered plate, that the image he obtained was not associated with its original colours.

Many circumstances have conspired to lead the general public to suppose that pictures in colour will be the crowning achievement of photography. In the early days of the art, more than one pretender asserted that he had discovered the secret, and exhibited pictures which he said owed their tints to no hand but that of the sun. Indeed, such pretensions have cropped up continually, like sun spots and other periodic phenomena, and we need only turn over the pages of any photographic journal to find instances which have occurred within the past two decades. Such an announcement gets at once great publicity and free advertisement, for the general public are greedy of anything of a sensational and supernatural kind, and the modern reporter is always at hand to supply them with as much food of the kind as he can get hold of. More than this, he does not let them have it in its crude state, but garnishes it with all the spice and seasoning which his imagination can command. The fact that the carbon or autotype process will furnish a picture in any one colour, at once affords him an opportunity of saying that the next step must be a polychromatic photograph. The photographer well knows that the problem of photographs in colour is not brought any nearer because by mechanical means we can produce a picture in any one pigment. Then there have been other processes—still of a strictly mechanical nature—such as one worked out by Woodbury, by which coloured photographs have been possible. The various methods of tinting a semi-transparent photographic image on the back, so that the colour shows through with softened effect, have also done their part in keeping up a popular delusion. But photographs in colour—that is the delineation of nature in its varied hues by means of the camera—must be considered,

in the present state of our knowledge, as nothing less than a delusion.

Much time and money might in the past have been saved if believers in the possibility of colour photographs had taken the trouble to make themselves acquainted with the works of those who have made the subject of colour their study, and from whose labour theories have been formulated. One of these appears to have been founded upon the experience of painters, who have shown that with three colours, red, yellow and blue, and the various tints compounded from them, they could produce a tolerable representation of the hues of nature. In this way the theory came gradually to be accepted that there were in nature three primary colours from which all others were derived. Sir David Brewster gave his sanction to this theory, and it was for long accepted as true, and if we confine ourselves to experiments with pigments it is not difficult to support it. But when we come to test its truth by means of the pure colours of the solar spectrum, and deal with coloured light instead of impure pigments, it fails to give those results which its advocates claim for it.

The theory with regard to colour which is being now more generally accepted, is that of Young, which was formulated as long ago as the beginning of this century, but which has more recently been revived by Helmholtz and other well-known physicists. This theory teaches us that every portion of the retina is capable of receiving and transmitting to the brain, by means of nerve fibrils, three distinct colour sensations, one corresponding to red, another to green, and another to violet. If all these sets of nerves are stimulated in a like degree by these various colour-sensations at the same moment, we perceive what we call white, which is a mixture of all colours. Light consists of waves, some long and some short; the longer waves stimulate the set of nerve fibrils which give us the impression which we call red, those of medium length give us green, while the shorter ones correspond to violet. But it is evident that the work of translating these wave-motions so that they generate in us the sensation of colour, is the work of our brains, and that outside of us, as an objective thing, colour is non-existent.

Theories are regarded by many people with suspicion, and they are ready to show that many a one has had to give way in the light of increased knowledge. This is so, but a theory is a good thing to take note of until we have something better to hold on to. This theory, which is based upon experiments with coloured light, has the support of many noted men, and its truth is endorsed by investigations concerning that abnormal perception of colour, common to a large percentage of civilised men, which is known as colour-blindness. If we accept this theory as one which is founded on a correct basis, we must, in our present state of knowledge, confess that photography in colour is an impossibility. The realisation of the dream would imply the possession of some new substance which would become red when acted upon by the longer rays of light, and green and violet when submitted to the action of shorter rays. The same substance must be sensitive also to the thousands of tints which are made up of mixtures of the colours of the spectrum. Some persons will see no difficulty in believing that such a substance may be within the bounds of possibility, but some persons believe in perpetual motion, and some in the flat earth theory.

Letters to the Editor.

MOUNTING.

SIR,—I see in your issue of the 21st inst. the method of mounting by T. W. Bacon, which I consider a good deal more tedious than the way I always adopt, viz., to soak the prints in water until thoroughly soft, not taking them out until the very last moment. By that I mean never to have more than one print drying at the same time. Before this, however, I have prepared two plates for each size of photographs I am going to mount, which I do thus:—

With a piece of moistened rag, rubbed on castile soap, I smear them over lightly to prevent the print sticking, and taking the print from the blotting paper, lay it evenly on the glass without pressure, then with a good brush put on the mountant, taking care that there is not too much of it, and also that the edges are as well covered as the remainder. Then, turning the glass over, I can perfectly well see where to drop it on the mount, and having pressed it home, lift the glass off. The print having been squeezed fast, is finished as far as it goes. The next print can go on the same glass without smearing until there is too much "side" gum to be pleasant, but I can generally "run" ten to twelve prints without bothering, having regard to putting the prints on the same grain line to prevent unnecessary dirt on the paper. I may mention I use the gelatine process, which does not curdle before you have time to finish. It is out of Wall's Dictionary, but I think his quantum of gelatine too little, and make it 240 grs. gelatine with $2\frac{1}{2}$ ozs. methylated spirits, and 6 ozs. water. Anyone wanting to make it must read his article, as it all depends how it is made. For about 4d. you can make 2s. worth of bought mountant, and as good if not better than most of them.—Yours, etc.,

J. C. B.

February 26th, 1890.

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PHOTOGRAPHIC SOCIETY AT BROCKLEY.

SIR,—On Monday evening, the 17th ult., I read a paper at the Lewisham High Road Congregational Lecture Hall, before the members of the Literary Society, entitled "Our Camera Club," and exhibited about ninety-five slides, amongst which were forty-eight kindly lent me by the Editors of the AMATEUR PHOTOGRAPHER, and which I need not say were highly appreciated.

My object in giving this paper was to rouse sufficient interest amongst the members of this society to enable us to start a camera club, and it now remains to be seen whether such an institution can be floated.

Will you be kind enough to make it known that we shall be glad to receive the names of amateurs, or of those who think of becoming such, and who would like to join this club.

A preliminary meeting will be held, when all details will be arranged. Ladies will be admitted as members.—I am, Sir, yours faithfully,

B. DAVIDSON.

40, Sandbourne Road, Brockley,
February 25th, 1890.

* * * *

THE AMATEUR: WHAT MAY HE DO?

SIR,—I have for some years thought that the qualifications of an amateur photographer should be drawn up and settled by some competent body.

Mr. Feilden's letter of last week on the matter is, I think, open to question on several points. Firstly, as regards his proposal "that an amateur should not receive out-of-pocket expenses from friends for a negative or prints." Surely so long as he makes no profit out of it, to disqualify him for merely charging out-pockets would be most unjust, unfair, and entirely without precedent. This proposal, too, forms a curious contrast with another proposal, "that an amateur may be a partner in any firm for reproducing the work of others for the purposes of illustration." I fail to see how these two proposals can be reconciled, and I disagree with them both.

The proposal, too, "that amateurs may be makers of plates, etc., and of every article in connection with photography," is clearly against every fair principle of amateurism. A boat-builder may not enter in a boat race for amateurs, and the rule is the same in every class of amateur competitions.

With reference to the proposal "that an amateur should not

receive money prizes" (which is, I venture to think, beyond dispute), I should like to point out the danger of the money prizes offered in every week's issue of the AMATEUR PHOTOGRAPHER. I feel confident that the winner of any amateur competition could be successfully objected to if he could be proved to have at any time taken a money prize.

I also disagree with the proposal "that a professional should be entitled to compete as an amateur after having retired from business for twelve months." "Once a professional always a professional," is a good old proverb. The professional competitions would always be open to him.—Yours truly,

March 3rd, 1890.

C. N. F.

SIR,—I fear your correspondent, Edward J. Feilden, has not cleared the way to a successful solution of this question. He says, "An amateur giving lectures, and illustrating his lecture by photographs, shall not forfeit his status by so doing." So far so good. But how about the wily amateur who, to make an honest penny, gets up a lantern show at popular prices, pads the thing with a sketchy description of the views, and dubs the mixture a lecture?

Again, "An amateur knowingly competing in a class open to professionals shall lose his status as such thereby." This is absurd, though the rule is enforced in some foot-racing societies. But in football—no more strict lines, with regard to professionalism, are insisted upon than in this popular game—an amateur can play either with or against a registered professional. I think amateurs are quite able to hold their own even in an open competition, and I see no valid reason for debarring them.

"The term professional shall not apply to professors or teachers at colleges, schools, naval, military, or public institutions." In this phrase is included the man who, though not directly earning money by taking portraits, etc., yet is daily engaged and paid to instruct and send out a swarm of young photographers who intend to make their bread and cheese as professionals. Now, if this man does not make his living by photography the logic that would prove the opposite I fear would never convince yours truly,

B. LAWRENCE.

March 3rd, 1890.

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ROYTON EXHIBITION.

SIR,—Your cheap and—well, let us say, sharp contemporary has stumbled upon a mare's nest of unusual brilliancy in assuming that your report of the Royton Exhibition was copied from his own. I am at a loss to know what justification he can find for so reckless an assertion, unless he imagines he has a patent for describing the pictures in the numerical order of the classes, instead of the order in which they were hung in the Exhibition, and numbered in the catalogue (thus Class XIV., No. 66 to 71, comes next to Class I., and is followed by Class XX., Nos. 71 to 84). Certainly every picture was examined personally, catalogue in hand, of which I think the report bears sufficient internal evidence.

He professes to find mistakes into which he fell "duly copied." Well, as every number, title, name of picture, and award of medals was taken direct from the catalogue, even when, as happened in two or three cases, the prize label was attached to the wrong picture of a series, if there has been any copying of mistakes, it has arisen through both of us copying from a catalogue in which mistakes *may*, no doubt, exist.

If he imagines I have copied his report, blunders and all, perhaps he will explain why I have not copied his remarks on Class XX., or the name of W. H. Kitchin spelt wrongly in Class VII. (since I saw his spiteful comment, I have been taking his advice and "amusing" myself by comparing the two reports), or his title for Mr. Whaley's picture in Class XIV., where, as in Class VIII., I have followed the catalogue, notwithstanding the apparent discrepancy; or again his blunder in Class XXI. as regards the title of Mr. Sutcliffe's picture, which he absurdly calls "Time."

It is, perhaps, not to be wondered at that two independent critics should agree as to the merits of a majority of the pictures, but our agreement is, I am happy to say, by no means universal. I have not hesitated, for instance, to express divergence, when necessary, from the opinion of the judges; and that our views on good taste are by no means identical, is manifest from my remarks on Class XIV., which, had I desired to be spiteful, I might have characterised in much stronger terms. I am

not concerned to defend my opinions on champion classes, nor are they necessarily identical with those of other contributors to your journal, but it may be worth note in passing that I have given expression to arguments both *pro* and *con*. My own personal opinion is that were exhibitors perfect, they would be *undesirable*, and that "one picture, one medal" is the best rule, but, on the other hand, they are perhaps necessary to attract to our provincial exhibitions work that could not otherwise be seen there, and that if this can be done at the cost of a couple of medals, the price is, perhaps, not too heavy. Apologising for length of this communication, which is more notice than the petty attack deserves, I subscribe myself,

YOUR CRITIC.

* * * *

CONSTRUCTION OF CONDENSERS.

SIR,—I am much indebted to the correspondents who have answered my questions about the construction of condensers for enlarging purposes. Mr. Muncey's account of his method of illumination (in the issue of February 14th) is very interesting. There is, however, one omission in it. The brass tube cannot be fixed firmly in the side of the wooden box if it is to be movable, and thus around the tube there must be some space free for the escape of light, which would also find its way through the tube itself. How does Mr. Muncey obviate this?

The letters of Commander Walters and "Stradivari," in the last number, are most valuable, and contain many serviceable hints. I am surprised, however, that the former gentleman should have found the use of ground glass necessary with his condenser. Surely this would indicate that the illumination obtained with the condenser alone was not as even as he imagined. The focal length of his lenses would seem to be much longer than mine.

But while expressing my gratitude to these correspondents, may I at the same time express the hope that their efforts will stimulate some one else to reply to the two most important of my queries, which still remain unanswered:—

(1) What is the relation of the radius of the sphere of which the convex side of the lens forms a segment to the focal length of the lens?

(2) What is the proper place for the illuminant? Is it at such a point that the *issuing* rays are parallel, or if not, where?

Could I but get answers to these two simple questions, which must be A B C to anyone acquainted with the elements of practical optics, I should be quite happy, and could go ahead with satisfaction, and, I feel sure, success.

I think my method of making the lens is a little simpler than either of those described, and in case it should be useful to others it may be worth description. From the circumference of the flat piece of glass I cut out a semicircular piece about $\frac{3}{4}$ in. in diameter. The cement was then laid pretty thickly on the edge of the same piece and the curved glass bedded in it, any interstices being filled up carefully with cement. When the cement was dry the glycerine was poured carefully through the semicircular aperture, which was then closed by cementing a bit of india-rubber cloth over it. So arranged, the joint was perfectly water-tight, but as an additional precaution I cemented a stout piece of tape over it cut half through in alternate segments, so as to lie flat on the circumference and on each side of the lens. The pair was then mounted in a square oak frame, grooved on the inner face to receive the edges of the glasses. These were thus only supported at four equidistant points, but this seemed sufficient, and the escape of light at the angles could be prevented by a cardboard screen.—I am, Sir, yours faithfully,

March 1st, 1890.

W. L. GROVES.

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MOVEMENT.

SIR,—I have just returned from a short tour in sunny lands, where I have been photographing. My camera was one of McKellen's 12 by 10, and I used a Ross' Rapid Symmetrical, and a Newman's shutter. But nearly all the negatives, when the shutter was used, have the appearance of the camera being shaken at the time of exposure. I gave the eighth of a second in each instance. I consulted several practical photographers, and they all agreed that it was the fault of the shutter. I should esteem it a great favour and help if some of your readers who have used Newman's shutter with a large camera would give me their experience, whether they have found the same fault in their

negatives after using this shutter. I met a gentleman abroad who assured me that the best shutter made was one by Londe and Dessondeix, in Paris. Passing through Paris, I went and examined the shutter, and it certainly seemed to bear out the recommendation of the gentleman who told me of it, that it would not jar the camera in any way when in use. Another gentleman recommended the Mاتيoli shutter. I went and examined that shutter also in Paris. It appeared a good one, but not to my mind at first sight so good a shutter as the former one.

Anyway, a good shutter which does not agitate the camera at exposure is an absolute necessity, and I think it will help others besides myself, if you will allow this subject a little ventilation in your valuable columns.

I quite allow that a large 12 by 10 camera requires for steadiness more solid support than a mere tripod can give it. At least, I think so.—I remain, truly yours,

EDWARD HUSBAND.

* * * *

CUSTOMS OFFICERS AND DRY-PLATES.

SIR,—The question raised by your correspondent, "An Observer," in query 3,506, is of some importance to travelling photographers, and an experience that occurred to myself at Southampton last November may be useful to others beside "An Observer." After a long vacation, spent in Jersey last autumn, I returned to England with about half a gross of whole-plates, exposed but not developed, packed in grooved boxes in my portmanteau. Having declared the small amount of dutiable articles in my possession, the officer commenced his inspection, and soon came across the boxes of plate; these he wished to open, but, fortified by Lord Salisbury's remarks in the House of Lords last summer, I strenuously opposed any such proceeding on his part, and produced a small ruby travelling lamp, saying that if he chose to show me to a dark-room I would let him examine the contents, not otherwise. Ultimately he sent for his superior officer, with whom I had no difficulty. There is a dark-room at the Southampton Docks, but of Weymouth and Plymouth I have no experience. In any case your correspondent will be safe in resisting efforts made by unintelligent officers to open boxes of dry-plates, and in demanding, if necessary, to see a superior officer. The production of a small ruby lamp and expressed willingness to open the boxes in some dark-room usually disarms suspicion and ensures a speedy release.—I am, etc.,

GEORGE T. HARRIS.

* * * *

REDUCING CAMERAS.

SIR,—We notice in your last issue a letter from Mr. John Platt, stating the sliding-rod arrangement—which we claim as a novel feature—was in use thirty years since.

Of course, inventors and patentees well know that it is almost impossible to design anything, however honestly, and publicly advertise it without someone being able to prove, like Solomon, that there is nothing new under the sun.

We can only say that the whole arrangement and every detail of construction were designed by our Mr. Pearson without attempting to copy from any source whatever. So far as we know, the following features are original as applied to a reducing camera: The method of adjusting the negative, the sliding-rod arrangement, the sockets for holding the rods, the mode of securing the dark-slide, the permanent combination of a *small* camera, having focussing screen size of a masked slide, with a large sliding box for any sized negative. These features have not been anticipated at the Patent Office.

Trusting you will find room for this reply, we are, etc.,

PEARSON AND DENHAM.



PHOTOGRAPHY is employed in the United States to recognise good wood. Micro-photographs are taken of sections, longitudinal and transverse, of standard pieces of timber bearing a certain known maximum or minimum strain. These are enlarged, and served as comparisons for other samples. Any piece which the educated eye detects as having fewer rings per inch diameter, fewer fibres, or fewer radial plates per square inch of section is rejected. The advantage of the method is that it allows all timber for important positions to be tested before being used.

The Complete Photographer ;

OR,

THE MODERN RECREATION OF CONTEMPLATIVE MEN.

BY H. P. ROBINSON.

CHAPTER V.

Exposure.

PUPIL.—To-day you promised that we should make some pictures.

PHOTOGRAPHER.—I think not. We are a long way from that at present. I remember saying we would expose some plates, which is *not* the same thing, although I do believe there is a popular delusion among amateurs to that effect. We should learn to walk before we try to run. We will learn to make photographs first, picture making may come afterwards. To that end we will expose some plates without much care for the subjects. We need not go further away than the garden, or use a larger size than half-plates. A group of trees, some palings and a few garden implements for a foreground will afford all we want in the way of subject at present. But first we must put some plates in the holders. With the solid holders you draw out one slide, remove the blackened square of tin to which a spring is attached, and place the first plate face downwards, replace the tin to separate the plates, and keep them in their places, and then insert a plate, face up this time, under the catches at the end, the other end being fixed with buttons. The slide is now replaced and we are ready for action. It may be as well to mention before we go that some photographers back their plates to prevent halation. This is done in various ways; one of the best is with ivory black or burnt umber mixed up with a little gum water; but it is a messy business, and I don't think the result pays for the trouble and inconvenience. I have had very little damage from halation although I see evidence of it in many photographs. If a plate has a sufficiently thick or opaque film of emulsion there is little fear of this annoying defect. It is the use of cheap thinly-covered plates that causes the mischief.

PUPIL.—You have not told me what halation is.

PHOTOGRAPHER.—It is a blurring quite distinct from the fuzziness caused by the image being out of focus, and produces even more softness, yet there is no school at present for the cultivation of halation as there is for the other defect. You will notice in some photographs that the lights appear to spread over the shadows. This is most visible where there are extreme contrasts, as in interiors, where the light from the window spreads like a halo around the dark edges. This effect is caused by reflection from the back of the plate. The rays of light forming the image—or rather the brightest of them—penetrate the coating of the plate and are reflected back against the underside of the film. If they were reflected back in a straight line this would not show so much, but all except the central pencils reach the film at an angle, and of course reflect at an angle, hence the halo, or halation. Now, for the garden; come along with the camera.

PUPIL.—Shall I set up the tripod here?

PHOTOGRAPHER.—That will do nicely. From this spot we shall get in the tops of the trees, and also include sufficient foreground. Place the camera on the stand, and see that it is firm. A pad of felt between the camera and the top of the stand greatly increases steadiness without the necessity of very tight screwing. Now I leave it to you to get your subject on the focussing screen so as to include the most picturesque elements. It is of no consequence for our pre-

sent purpose, but it is good discipline to accustom yourself to look out for beauty.

PUPIL.—It is all very well to look out for beauty, but I can't see anything!

PHOTOGRAPHER.—Because you have not learnt to see. There is more in seeing, in many ways, than meets the eye. For the purpose of selecting your picture you may remove the diaphragm from the lens, but not for focussing, as I will presently explain.

PUPIL.—Ah! now I see better. Will that do?

PHOTOGRAPHER.—You have cut off the tops of the trees, always an ugly effect, except in the case of very near trees where you only use the lower half of them and the branches fill the top of the picture. In this case there are two methods of procedure. You may raise the sliding front, which will have the effect of cutting off some of the foreground, if you have it to spare, and giving it to the sky. Or the same effect may be produced by looking upwards with the lens. This is what the eye does and is the true and natural way of looking at it. Yet we have here an illustration that in some cases convention is better than absolute truth. Not even a naturalistic, not even one who has been trained so minutely as to distinguish the difference between a wasp and a saw-fly, and would be supposed to know something of the appearance of things, would allow that a tall building was correctly represented by converging vertical lines. And it appears wrong and awkward to all eyes, trained or otherwise. This is one of those cases in which absolute truth looks false and shows the necessity of conventions. I have never seen this disregard of the perspective of vertical lines alluded to. The problem may be thus shortly stated. The further parallel lines recede from the eye the more they will appear to converge. This is visible enough anywhere. If you look along a straight line of railway, standing between a pair of rails, the lines appear wide apart close to your feet and to meet in the distance. This is an effect of perspective universally recognised on the ground, or with horizontal lines, but never with vertical; yet if we could imagine the pair of rails running upwards to the zenith the same effect of perspective would be visible, the rails would converge to a point. In the present case we may disregard the apparent distortion, as we have no marginal lines to show it, but I may as well mention here that there is a way of overcoming the convergence. We will turn the camera round to the house for a moment and settle this point. Place it quite level. What do you see?

PUPIL.—The lines are upright, two-thirds of the height of the house only comes in, and there is a good deal too much lawn in the foreground.

PHOTOGRAPHER.—And if you had a cathedral before you the effect would be the same. You would lose the towers and get a vast expanse of pavement. This can be cured in a minor degree, as I have already pointed out, by raising the front of the camera. Now tilt the camera until you include the top of the house.

PUPIL.—And the lines converge.

PHOTOGRAPHER.—Naturally. The top of the house is further from you than the bottom, and is therefore perspective smaller. But custom decrees that the lines shall appear upright. Now they will become so if you have your focussing screen parallel to your building. Here comes in one of the uses of the swing-back, but it is a device I dislike and never employ if I can help it. If the back is swung outwards from the bottom, the screen can be made parallel to the buildings, although the eye of the camera is looking upwards. The lines will now appear parallel with the margin of the picture. The defect of this arrangement is the loss of focus in the foreground, for to favour the definition of that part the swing-back should be used in exactly

the opposite direction, as we shall see when we come to the landscape, to which we will now return. I should mention that a good deal of the difficulty could be got over by the use of long-focus lenses, and getting away some distance from your object; but it seldom happens in photographing buildings that there is sufficient space of level ground to get far away, and to descend is to increase the difficulty.

PUPIL.—What bell is that?

PHOTOGRAPHER.—That is the knell that summons us to luncheon. We are not half through our present subject, and will break off here for awhile.

Winter Work.—XXII.

By T. C. HEPWORTH, F.C.S.

PHOTOGRAPHY BY MAGNESIUM LIGHT.

PORTRAITURE by the aid of the highly actinic light afforded by burning magnesium is not by any means a new thing. So long ago as the year 1865 it was proposed to use the metal magnesium in much the same way that it is used now, that is to say, for flash-light purposes. But there are two reasons why the suggestion was not taken up with alacrity, one being that the metal was at that time a very costly article, and the other reason being that the amateur photographer was almost unknown, and professionals were too busy in other ways to trouble themselves much about a mere matter of experimental interest. Nowadays flash-light photography has become so common that it would not be an exaggeration to affirm that tons of the silvery magnesium powder are dissipated in light and vapour during the winter season in this country alone. It is certain, too, that many use the metal as a help to daylight on those dull days with which all are familiar, except those who have the good fortune to live out of range of city chimney pots.

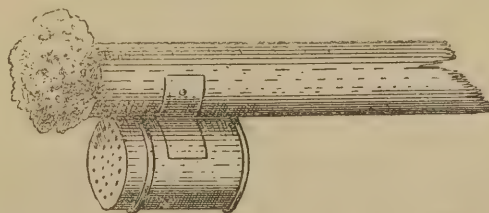
Magnesium was first used as a help to photography in the form of wire or ribbon, and lamps were made in which it could be conveniently burnt. In the official report on the Paris Exhibition of 1867 I find the following reference to the use of such lamps: "The newly discovered metal, magnesium, by the brilliancy and whiteness of its combustion, resembling sunlight, has enabled photographers to secure pictures in vaults and other places inaccessible to ordinary light. It has also been made to supply the place of the sun itself in the solar microscope, or enlarging apparatus constructed on the same principle. In order to ensure its steady combustion, lamps have been contrived to secure the gradual supply of a ribbon or wire of the metal. Mr. Solomon, in England, exhibits a very convenient apparatus. The trial before the jurors was perfect. In Austria is a smaller but similar lamp for the same purpose."

The Commissioners who are responsible for this report are certainly wrong in speaking of the metal as being "newly discovered," for its discovery was made at the very beginning of the century by Sir Humphrey Davy. But as that great investigator only produced it in very small quantities, it could not form the subject of much experiment until by the labours of others it was brought within the commercial horizon. Solomon's magnesium lamp seems to have been the prototype of a number which have since been devised on precisely the same lines, possibly by inventors who never saw the original. It consisted of a metal box containing a train of clockwork, which fed the metallic ribbon between rollers into a spout, which delivered it at the focus of a parabolic reflector.

Another form of lamp of about the same date as that of Solomon, is one devised by Larkin, to burn the powdered metal. The means by which this was accomplished were very ingenious, but quite different to the flash method with which we are all more familiar. The principal feature of the lamp was a hopper, or containing vessel, which was charged with the magnesium powder mixed with a certain quantity of silver sand, so as to help it in its flow—hour-glass fashion—through a small orifice. This orifice could be opened or closed by the action of a conical plug which was affixed to a lever action. When this lever was depressed, the orifice was uncovered and the powder fell in a steady stream on to the flame of a spirit lamp beneath, so that as long as the hopper remained open, and the store of magnesium and sand was not exhausted, a brilliant flood of light was given out by the lamp. That this light could be depended upon is proved to some extent by the circumstance that two lamps constructed on this principle were used at a meeting of the British Association to light up a refreshment tent and its attached garden.

Magnesium was used for another purpose about the year 1878, when Captain Colomb invented an ingenious form of flashing lamp for army and navy signalling. This consisted of a spirit lamp below which was a box containing a mixture of powdered resin, magnesium, and lycopodium. From this box proceeded two bent delivery tubes, the ends of which pointed directly towards the burning wick. Another pipe was also connected with the interior of the box, and this was furnished with a long india-rubber tube crowned with a mouth-piece. For signalling purposes the operator had to blow through this tube, so as to make long or short flashes at will and thus spell out any message by the Morse alphabet.

Soon after the introduction of this flash lamp, which worked most perfectly and would doubtless have come into common use for naval purposes if it had not been superseded by electricity, I made a model lamp of very simple form in order to demonstrate the principle of these short and long flashes at the lecture table. My flash lamp consisted of a wooden rod, two feet long, cut from a broom handle. To the top of this rod I fastened with a single French nail, a piece of sponge, and just below the top I bound on to the rod a penny tin pepper-box. The annexed diagram of the apparatus will make its construction clear. The box was



charged with the flash powder, as in Captain Colomb's lamp, and the sponge was soaked in methylated spirit, squeezed, and then ignited. Holding the rod at arm's length, I then gave it a rapid sweep through the air, with the result that the powder was scattered out from the pepper-box and made a brilliant arc of light. I believe that a torch constructed on this principle would be serviceable in photography, and I threw out the suggestion a short time back in an American photographic publication. The cost of the contrivance is next to nothing, and it will yield a flash of long or short duration, as may be required. With this reference to my rough-and-ready magnesium torch, I will close what may be termed the historical part of my subject.

The revival of the flash-light principle for photographic

purposes seems to be due to Dr. Vogel, who had experimented with a certain powder prepared by Gäedicke, with which he was successful in taking portraits by night. This powder seems to have consisted of a mixture of magnesium, potassic chlorate, and antimonious sulphide. This is a needlessly dangerous mixture, which will not only explode by heat, but, like other compounds containing sulphur and chlorate, will fire with explosive violence by slight friction or percussion. Indeed, a mixture of antimony and chlorate was used in the old days for charging the percussion caps used for small arms. It is not very easy to see what use the sulphur serves in a flash-light mixture, except, perhaps, as an aid to rapid combustion. The chlorate will fire without it, especially if it have a little carbon added to it in the form of powdered loaf sugar. Dr. Piffard, whose name is associated with the revival of the flash-light system in New York, advocated, in a paper read before the Amateur Photographic Society of that city, the use of gunpowder with the magnesium, in the proportion of one volume of the former to four of the latter. I have tried this mixture with very unsatisfactory results, and am certain that most of the powdered metal gets blown away without ignition. The flash is certainly far from being as actinic as one would expect from the quality of magnesium employed, and the smoke given off quickly fills a large room, to the great annoyance of the dwellers therein.

Far better results can be obtained by the use of gun-cotton. The cotton should be of the explosive variety, and of such a quality that when a small tuft of it is placed on the palm of the outstretched hand and ignited, it will flash off without leaving any residue, and will fire so instantaneously that there is no burning sensation to the skin. For flash-light photography about fifteen grains of magnesium should be scattered over a tuft of cotton weighing about ten grains, which has been pulled out so as to cover the largest possible area. The cotton may be placed upon a saucer, or an old tray, and ignited with a long taper. Some have complained that the yellow colour of the flame given by the burning cotton partly neutralizes the actinic quality of that of the magnesium, but I hardly think that this contention is tangible. The cotton is simply used as a convenient means of giving the initial force to the magnesium, which it does both by scattering it in the air, and at the same time igniting it. Whatever kind of flame we use for the purpose, we may assume that to some totally inappreciable extent it may counteract by its colour the actinism of the burning metal. Still, I consider that for other reasons gun-cotton is not the best means of firing magnesium, but its simplicity will always commend it to those who only want to use the light occasionally and may not have more convenient methods readily available.

There is an unwritten law that seems to be scrupulously observed by otherwise unscrupulous traders, which runs thus—"Thou shalt commit adulteration." This law is, unhappily, of such universal application that even magnesium powder has not escaped its influence. Some of its adherents have noticed that magnesium is an expensive metal, and that zinc, which when filed to dust cannot readily be distinguished from it, is conveniently cheap. It is of course only natural that the zinc should by accident get mixed with the magnesium, and confounded with the latter. It is therefore as well that the buyer should be aware of this sophistication, and be careful to go to a trader who is above such dealings. I believe that magnesium wire and ribbon is sometimes alloyed with a small percentage of zinc, so as to correct its natural brittleness, just as our coinage is alloyed with baser metal; with an equally legitimate object, but no such excuse can be pleaded for tampering with the metallic dust, which for flash-light purposes should be as pure as

possible. Magnesium should be kept perfectly dry and in a well corked bottle, for it quickly tarnishes in the air, and when so tarnished it loses much of its radiant quality.

(To be continued.)

Photography in India.

BY MAJOR E. F. BECHER, R.A.

YEARLY, towards autumn, we see in the query columns of the AMATEUR PHOTOGRAPHER inquiries of the photographic capabilities of India and the voyage thereto; though I do not profess to any photographic skill, yet during the last six years I have had some experience of the East and the going to and fro, but only latterly photographically. I must first say that I am a plate-spoiler, as some call it, and not a picture maker; we plate spoilers have lately been so much condemned and we have heard so much about art, pyramids, fog—I mean naturalism—that I am afraid the reader will peruse no more after this confession. But photography to the traveller is what a sketch-book is to the artist, and though we do not make prize pictures, yet our photographic sketch-book is of great interest in after times to ourselves and to our friends.

(1) As to camera.

My own camera was a half-plate Artist's, from the Stereoscopic Company. This is a very handy camera for travelling and rough work, and has stood well. If I were to start again, I should take out with me an ordinary half-plate extension camera, and a quarter-plate hand-camera. I last year bought one of Rouch's Eureka cameras, and am very satisfied with the results. I should recommend a tripod also. Before commencing operations with this camera, remove the back, place a piece of ground glass in the position of the front plate, and focus various objects at various distances, using the slide-out motion; make careful notes of the result, and do not be in a hurry; you will then find that you have a practical knowledge of your instrument. You should also note what the picture looks like in the finder. Another wrinkle connected with this camera is, when you are using it drawn out, to place a finger in the gap, as if you press the shutter knob too hard you are liable to alter the focus. I should say, however, that I do not know how it will stand the hot weather and the rains, as my experience of it was in the cold weather; but from what I know of it, as I have said before, I am very satisfied indeed with it.

Another apparatus I should strongly advise anyone who is going out to remain some time, to take with him, is an optical lantern; a quite good enough one can be obtained for £2 or £3. All bungalows in India are light-colour-washed, so for ordinary occasions you want no screen; you can thus show your friends scenes and episodes much better than by means of prints stuck in a book. I have often worked the lantern whilst sitting in an arm-chair, the lantern on a tea-poy about five feet or so from the wall. You do not want a large picture to exhibit to three or four friends, and I am not at all sure that for these informal shows a small brilliant image is not preferable to a large and, of course, less brilliant one. But Europeans and natives delight in seeing it work. But of course for the latter, the larger image the better. I have quite given up silver printing in favour of slide making, the trouble of printing being at all times immense.

A very frequent query is, "Shall I take out plates and chemicals?" My advice is, take a few, sufficient to make a start with, but for the rest buy your ordinary chemicals in India. Plates I should have sent out by parcel post periodically, similarly ready-sensitised paper, if you use it; but you can buy all things photographic from Kemp, Treacher, Neuberger, etc., in Bombay, Blee at Jubbulpore, and no doubt at Calcutta and Madras; but you can always ascertain this from the advertisement columns of the various papers.

As regards the lantern, if you wish to use the lime-light, you must make the oxygen and hydrogen yourself, you cannot buy it in cylinders in India—at least, in Bombay.

We will now start on the voyage, and here are two maxims I would inculcate:

(1) Never take instantaneous pictures of people in unbecoming attitudes, they not knowing that they are being photographed (unless, of course, you know they will not mind). This is the "arrayism" of photography.

(2) Never take an instantaneous photograph under the awning, in nearly every case the results are most disappointing, in most cases a failure.

I should not attempt to do any developing on board ship; however, if you decide to do so, you will find the bath-room the best place, where there is an unlimited supply of salt water, and a can or so of fresh water can be obtained by asking the bathman for it. If the ship arrives at a convenient hour in Malta, you will have plenty of time to develop some plates in the dark-room of a local, who will allow you to do so for a consideration.

If the bath-room does not suit, from one cause or another, for changing plates, ask one of the ship's officers if he can let you have some place you can darken. You will always find the officers of the ship most willing to do anything they can for you.

An Eclipse changing tent (I think this is the name) is most useful, but if you prefer to change them without, by informing the bath attendant that you want the bath-room darkened at a certain hour you will find it done to a great extent, and you can easily put the finishing touches with rugs, turkey-red (you should have a good large piece with you), etc.; if you use a night-light with your red lantern, do not pack them up with any other property. I did so in my portmanteau, and when I wanted one in the Red Sea I found nothing but the wicks, they had entirely melted away; the results can be imagined.

I have seen queries in the AMATEUR PHOTOGRAPHER, asking, "What sort of subjects shall I find *en route*?" This hardly requires answering; you will find ships, and strange people in strange clothes; land scenes—I can't say landscapes—at your stopping-places, *i.e.*, Gibraltar, Malta, Port Said, and Aden.

You will probably find it convenient to buy photographs at Malta and Port Said; those at the latter place are ridiculously cheap (whole-plate at three for a shilling); you can commit piracy by copying them if you like making lantern slides.

I should have mentioned before this, that I should only have my hand-camera ready for us; my large camera I should either have packed away in my cabin or else in a package labelled "Wanted on voyage." Packages thus marked are put in the baggage-room, and not in the hold, and can be got at any time by applying to the baggage officer, but theoretically they can only be got at on certain days. I should not try any shots in the early morning or in the evening, as the sun rises later and sets earlier in the East than in an English summer, and though everything looks very bright, the actinic power is weak. As regards exposure generally in India, if you treat it as for a bright June day you will be about right; but a little practice is worth much theory, and by trying a plate or two the power of the light can soon be ascertained, but you can't go much wrong if, as I have said, you confine your instantaneous exposures to when the sun is well up, and also if you regard it as an English June. I think the actinic light in India is less.

You must also remember that the complexion of the black man is also non-actinic, and prepare for disappointment in the result if you have made a very rapid shot at close range.

Well, we have disembarked at Bombay. Some of us are soldiers, some civilians, and some tourists. The two former classes will shortly take up their abode in their own bungalows, the latter will pass their time chiefly in hotels and "dak bungalows;" and if they cannot find some local photographer to allow them the use of his dark-room, they must make such shift as they can. When you have settled down in your own bungalow a dark-room is easily contrived.

Only in the large towns will water be found laid on, *e.g.*, Bombay, Poona, etc.; in other places the water is obtained from wells. Every bedroom in India in hotels and bungalows has its separate bath-room. Doors and windows never shut tight, and are always more or less tumble-down. The light inside most bungalows is very feeble; as an example, I printed a couple of photographs to see how the negatives would turn out, and left them on a table close to two windows (most windows open into the verandah). Two or three days afterwards I was toning, and put the above two into the batch; they had not been the least affected by light, the whites were quite pure. But to return to our future dark-room, the bath-room. Bath-rooms are all of one type; a small room with cemented floor, divided unequally by a ridge about eight inches high, the narrower part being covered with matting, the larger part being the water place. In one corner is a hole through the wall for the water to escape; two doors,

one opening into the bungalow, and the other into the verandah, the upper portion of the outer door having *jalousies* in the usual falling-to-pieces condition; a small window, the lower half being wood; the ceiling of canvas, usually with several rents in it; the walls and ceiling whitewashed. To convert, make the landlord repair the ceiling; holes let in dust and dirt. Call in a man from the bazaar to blackwash, or redwash, or yellowwash the inside; buy six or more of the usual porous earthen water jars (*chatty*), and one large one (*ghurra*), about three-foot high, and a couple of tin pots; make your window light-tight by means of brown paper, gum, and tacks, with the exception of the glass. The waste-water hole must also be made light-proof, but it must not be stopped up altogether. Make a small hole in the bottom of the large jar, and put it in the corner where the waste hole is; this is your sink. Range four of your chatties alongside one wall; when filled, this is your water supply; the tin pot is for baling the water out for washing your plates; these chatties being porous keep the water fairly cool, and in the hot weather they require constant changing; a professional photographer gave me this wrinkle, he told me that by doing so he was able to work all through the hot weather without using ice, and this was at Kamptee, one of the hottest places in India. Next use what red or yellow paper you like for your window; the source of light being high (only the upper part, as I have said above, being glass), you will have to use artificial light for developing. If the position of the window does not suit you, you can easily knock a hole somewhere else, and put a pane of glass in; the walls are generally more or less mud; it would only cost about two rupees. Now for your table; this can be a packing case resting on bricks at the corners; the open part facing inwards, you can thus with very little ingenuity make resting places for your trays inside. Newspaper loose on the top, frequently changed, helps towards cleanliness.

Another packing case, but smaller, makes your stool. A curtain over the opening is an improvement, as if at any time you want to leave your dark-room you can put anything likely to be injured by light inside, whilst you open the door; also when making lantern slides, say you have half-a-dozen frames, put them inside the seat-box, light your lamp, and expose them one by one, returning each when it is exposed to this dark box. Another small packing case with a shelf makes your cupboard; this should be fastened to the wall. Another small packing case in the most remote corner for your hypo bath, or else have it inside the bungalow; a camp washing-stand, complete, outside the dark-room, is also very necessary.

The only thing now remaining to do is to darken your doors. You can get cheap, thick red blankets from the Elgin Mills, Cawnpore. Hang one of these inside your outer door, and another outside your inner door. You will want another most probably outside your outer door, but this should not be a permanency, as it would be stolen. This, I think, completes your dark-room. Of course, a little ingenuity modifies many of these arrangements, according to local adaptability.

You can save yourself much trouble by teaching a native boy to do much of the mechanical labour, but teaching him beyond that entails more trouble, I think, than it is worth, especially as he will think himself, *more servitorum*, invaluable, and that you will not discharge him for faults which deserve it. Be prepared in the hot weather to find your water playing you all sorts of tricks, also your solutions; you will find, for example, that without ice, aristotype paper melts away when you attempt to tone. The remarks I have made about the voyage are from a P. and O. or other private line point of view. On board a troopship the case is altered somewhat; the first lieutenant is there the power in the state, and the golden rule for a landsman on board one of H.M. ships is to ask for nothing and ask no questions. A naval officer on shore and one on board a ship are two very different creations.

I will conclude with a few odds and ends as they occur to me.

There is a photographic society at Calcutta. There are art exhibitions at Bombay, Poona, Calcutta, and elsewhere, where photographs can be exhibited.

Water, especially from wells, is liable to have much sand in it, so the necessary precautions must be taken. A tin still can be bought at any large chemist's, *i.e.*, Treacher or Kemp, at Bombay, price about Rs. 12. It is best to distil water at night, as thus the water in the condenser is cooler. There is no difficulty in getting ice at most stations.

One of the first things a photographer wishes to photograph

in India is his various horses and ponies. I have found that I have got the prettiest and best pictures by having the subject led down to a river or tank (there is generally one close by), and making him stand either at the edge or in the water. Most Arabs when not excited stand like cows, another horse or pony (a stranger for choice) somewhere near the subject generally makes him show himself off.

Ordinary wooden negative boxes are a great waste of bulk; plate boxes save much room for storing negatives. I do not recommend vulcanite dishes, the heat cracks them.

I have almost forgotten one most important power in the East, that is the white ant. Let nothing of any value remain on the floor, especially in the dark-room, for any length of time. Your developing box-table should rest on bricks; glass, however, is the only medium which baffles the climbing powers of white ants, and therefore bottles are preferable to bricks, but the latter avail to a certain extent.

There is generally more or less dust in the air during the day, so precautions should be taken when negatives are drying.

Blackwood's Photographic Lens.

THE improvement in photographic lenses which Mr. Hugh Blackwood has patented consists in the use of an extra lens placed just in front of the rear lens, or it may be inserted in the stop itself, different sizes and strengths being thus optional. This extra lens, by preference, consists of a bi-convex and a bi-concave, which may be cemented together and arranged with a small air space between; the later arrangement is preferred, as a stronger or weaker glass can be used according to the effect it is desired to produce. By the addition of stronger bi-convex lenses, the focal length may be shortened down to such an extent that the sensitised plate may almost touch the lens. The glasses which the patentee employs are ordinary eye-glasses, that can be purchased for a small sum almost anywhere. The strength of glasses found most suitable varies from No. 5 to 16 (French numbers), according to the class of lens to be used; thus, for a whole-plate rapid rectilinear, or half-plate Lancaster's meniscus lens, Nos. 7 or 8 are most suitable, while for a portrait lens the strength may vary from No. 5 to 16, according to results required. By the addition of the extra lens a narrow-angle Ross or other maker's narrow-angle lens is converted into a wide-angle; while a Dallmeyer or other maker's wide angle lens may be converted into a narrow angle of any required degree by substitution of a stronger bi-concave. Also, if objects at a great distance are to be photographed (say from the top of a hill), flatness of field, depth of focus, with a large stop or orifice enabling instantaneous effects, will be attained. A Voigtlander or other portrait lens becomes, by addition of the extra lens, applicable for all known purposes, as the good quality previously sacrificed to get the greatest possible rapidity are regained. Similarly any ordinary lens becomes increasingly efficient for purposes of enlargements. The patentee also finds that with lenses of Dallmeyer, Ross, Lancaster, and other well-known makers his adaptation produces greatly improved results.

With many meniscus lenses, by the addition of one bi-convex glass of No. 8 strength, he obtains rapidity, shortness of focal length, width of angle, clear definition, and flatness of field, but in most cases he prefers to use the compound lens. Similarly with an addition of one No. 1 or 2 short-sighted eye-glasses inserted in the stop, an ordinary quarter-plate portrait lens will cover a three-quarter, or 7 by 5½ inch, plate at the same focal length, viz., 6½ inch as before, with a large ¼ inch stop, yet with flatness of field, depth of focus; or a Dallmeyer 2 C lens will cover from a whole plate to a 12 by 10 plate with a larger stop than at present, attaining also increased rapidity and brilliant effect. In all cases a diaphragm will be placed between the extra lens and the rear lens in the combination.—*English Mechanic*.

Science Notes.

It is the good (or bad?) fortune of the writer to be required monthly to catalogue the contents of some hundreds of periodicals, transactions, journals of learned societies, etc. These frequently contain matter of interest to the photographer; and in these notes it is proposed to cull from their pages such items as it is thought will interest the readers of the AMATEUR PHOTOGRAPHER.

The new Midland "city" possesses a monthly publication, entitled *Birmingham Faces and Places*, which is in its way producing a photographic survey of the "hardware village" and its neighbourhood. All the illustrations (half-a-dozen each month) are from photographs, and are reproduced, whole-plate size, by Sprague's "ink-photo" process. The price is sixpence, and the publishers are Messrs. Hammond and Co., Scotland Passage Birmingham.

At a meeting of the Royal Meteorological Society on February 19th, Captain D. Wilson-Barker exhibited a number of photographs in illustration of his paper on "Cloud Nomenclature." He includes all clouds under two heads: (1) cumulus, and (2) stratus but makes elaborate subdivisions of each.

At the same meeting Mr. E. S. Bruce read a paper on "An Optical Feature of the Lightning Flash." He referred to the report of the Thunderstorm Committee, in which it is stated that there is not the slightest evidence in the photographs of lightning flashes of the angular zigzag or forked forms commonly seen in pictures. The author, however, believes that this is an optical reality, as the clouds on which the projection of the flash is cast are often of the cumulus type, which afford an angular surface. In support of this theory he exhibited some lantern slides of lightning playing over clouds.

Photographers know well that the human eye is most sensitive to yellow light. M. Raphael Dubois (Paris Academy of Sciences) finds that the blind animals which inhabit the grottos of Carniola have skins which are sensitive to light, and that in their case also it is yellow light which affects them most readily.

The new printing process invented by Dr. Nicol, of the Mason College, Birmingham, is based upon the work done by Herschel and Hunt more than forty years ago. Dr. Nicol uses certain salts of iron spread upon paper to obtain a weak image, and this is then developed with nitrate of silver. The company which will work the process proposes to call it "Kalotype" a name too near Fox-Talbot's famous "calotype" process to be a good one.

Those who love to photograph our cathedrals should study the capital articles on them which have appeared during the last year or two in the *Century Magazine*. The March number contains Gloucester Cathedral, described by Mrs. Schuyler van Rensselaer, with drawings by Joseph Pennell.

The *Moniteur de la Photographie* gives a method of compounding a magnesium mixture which will produce, when burning, a light equal to twenty thousand candles:—

Magnesium powder	..	..	5 ozs.
Barium nitrate	..	..	7½ "
Flowers of sulphur	..	..	1 oz.
Beef suet	..	..	1¼ "

The suet is melted and kneaded up with the other ingredients into a paste, which is then placed in metal saucers (zinc, etc.) about 3 ins. in diameter. Each saucer or case should hold about one pound of the mixture. This will give a light which lasts for twenty seconds, and can be seen at a distance of sixty miles. For photographing crowds at night, fires, etc., this would be a useful light.

The February number of that excellent magazine, *St. Nicholas*, has an article on "Football," which has some capital illustrations done by instantaneous photography, and reproduced by the Meisenbach process or some modification of it. F. G. S.

DR. M. ANDRESEN, of Berlin, has taken out a patent in this country for developing photographic prints on coatings of chloride, bromide, or iodide of silver by treating them in a developing bath containing diamido-naphthalene, amido-naphthol, or dioxynaphthalene, or their sulpho-acids. He says that these substances are exceptionally suitable for developing photographic pictures.

Our Contemporaries at Home and Abroad.

Anthony's Photographic Bulletin (New York), in an article on "Stained Negatives," says, "From what we have said, it is evident that by far the greater number of stains upon negatives are the result of faults in manipulation; but occasionally they come from accidents. . . . Careful manipulations and a strict following of the directions given for the development and fixing of the plates will give negatives free from stain." Articles: "Chemistry of Uranium," "The Eyes in Flash-Light Photography," "The Coloured Screen in Photo-Micrography," "Reducing of Negatives and Positives, and other Properties of the Acid Fixing Bath," "An Amateur Photographer on the Nile and in the Desert of Sinai," etc.

British Journal of Photography, speaking of toning solutions, says, "The best method of preparing the solution (chloride of gold) is to keep it not weaker than, say, a grain to the drachm, and only when wanted for use to add the chalk or other neutraliser to the required amount of strong solution, then to filter after shaking a few times, and, finally, to add the acetate or other alkaline salt. If the chalk be added to a weak solution, say a grain to the ounce, the acidity is less readily counteracted, and there is risk of over-haste, leading to the concoction of a defective toning bath." Articles: "Celluloid and Electricity," "Scott's Warm Air Saturator," "Enamelled Coloured Prints," "Film Photography," "Scale of Focussing Hand Cameras," "Eikonogen as a Developer in Practice," etc.

Photographic News says, "The latest use of photography in medical science is seen in a new medical publication. The author of a paper on the peptones made some experiments as to the power of various pepsins in digesting albumen, and, desirous of showing his readers the results, he had the flasks in which the experiments were made photographed, and the photographs reproduced for publication. The pictures show the exact relation and proportion of the various residues, and lay the experiments before the mind in a very vivid way. The idea is a capital one, and is capable of much expansion." Articles: "Detective Cameras," "A Machine Camera Taking Ten Photographs a Second," "An Old Photographic Book," "Platinum and Palladium Toning," "Hinges of Dark Slide Shutters," "A New Lithographic Transfer Ink," etc.

The *Photographer* (Glasgow) says, "Apart from any 'photographic' risks, the usual rate of insurance upon any building (or its contents) constructed of wood and glass is 5s. for £100. Greenhouses and conservatories, heated by hot-water pipes or hot-air flues, are perhaps the simplest illustration of such class of risk, and this may be taken as a fair 'normal rate' to start upon, and I doubt if any good office would object to accept such a rate if there were no further complications, in the shape of fire stoves, joint tenants, or any large stock kept of collodion, alcohol, or ether." Articles: "Dry Plate Photography for Beginners," "Out of the Past," "The Practical Printer," etc.

The *Photographic Art Journal* contains a print from Dr. Emerson's "Great Yarmouth Harbour," photo-etched by himself. In an article on "When to Abstain," it says, "Let the first impression of a picture, the original motive, come direct from Nature. This is better than sitting at home and inventing a subject or reading a passage from some pastoral poem and then setting about making it up. It will then indeed be surprising if you escape conventionality and formality in the result. 'Go forth into the light of things,' and in a submissive mood let Nature be the teacher, and having caught at her suggestion, then work it out in sympathetic and conscientious spirit, and rest assured that there are those about you who when they see your picture will not fail to recognise its truthfulness and beauty." Articles: "Intensification," "Proposed Photographic Survey of Warwickshire," "Control in the Density of Negatives," "One or Two of the Tenets of the Naturalists," "The New Rollable Celluloid Film," etc.

The *Photographic Times* (New York), in an article on "Printing on Plain Paper," says, "A combined gold and hypo bath tones plain paper very well, but requires a much longer time to accomplish the desired result. The following formula is a good one: Dissolve 15 grs. of pure terchloride of gold in $7\frac{1}{2}$ ozs. of water, and add it drop by drop, accompanied by continuous stirring, to a solution of 2 ozs. of hyposulphite of soda in 12 ozs. of water. Take 3 ozs. of this stock solution, and mix with 15 ozs.

of a 10 per cent. hypo solution, adding 15 grs. of freshly precipitated chloride of silver. Tone the prints without previous washing, and they will acquire a beautiful shade which is permanent." Articles: "Photo Engraving by Electricity," "The Natural in Photography," "Improved Means of Filtering Thick Liquids," "A Simple Apparatus for Generating Oxygen," "Platinum Toning," etc.

Photography, in an article on "Originality," says, "Sentimentally, this lack of originality has been deplored many times, but we think it ought to receive sterner recognition, if not in exhibition rules and conditions, then at the hands of the judges. For while we may advantageously glean ideas and suggestions from fine art engravings and from the works of our best artists, yet to degrade photography to mere copying must be fought against to the utmost by alert and watchful judges." And in another on "The Monochromatic Rendering of Colours," it says, "By using plates which are called Isochromatic, but are not so in the literal sense of the word, we arrive at results which are truer than when an ordinary plate is employed, and by cutting off the violet we come nearer to the truth. Photography is full of dodges, and this last is amongst the most scientific of them; but the aim of experimenting should be gradually to simplify all processes to the utmost, and make them beyond the power of tampering with, and getting sporadic results which are looked upon as triumphs of genius, whereas they frequently are the outcome of some lucky hit which can seldom be repeated, owing to some small difference in the manipulations of apparatus employed." Articles: "A Memorandum Camera," "Palladium Toning," "Professor Muybridge at Manchester," etc.

The *Journal of the Photographic Society of Great Britain* for February 21st contains the report of the Council and statement of accounts for the past year, which shows a balance of £794 12s. 1d. It also contains a paper on "The Establishment of a Central Institute of Photography in connection with the Photographic Society of Great Britain," and on "An Example of an Effect of the Hinges of Dark-Slide Shutters on Gelatine Plates," an account of the annual dinner, and a notice of the late Mr. J. R. Sawyer.

Bulletin de la Société Française de Photographie (Paris) contains the proceedings of the society at its sitting on the 7th ult., in the course of which it was announced that Mr. Vogel, jun., had sought the cause of the black edges which were frequently found round the edges of commercial gelatine-bromide plates. The phenomenon is due to the black paper used for packing them. Traces of hyposulphite of soda have been found in the paper, which evidently proved the use of paste treated with anti-chlorine, or of colouring matters containing that salt.

“Thursday Evenings” at the Camera Club.

BY ONE OF OUR STAFF.

MR. CHARTERS WHITE was very appropriately the Chairman at the meeting of the Club on the 27th ult., when the subject for consideration was "Photography as applied to Medicine and Surgery." The subject was a somewhat difficult one to treat, in the sense that it is a comparatively recent innovation into the realms of the art, but from the facts placed before the meeting by Dr. Patterson, who provided the remarkably able paper on the subject, it is likely soon to occupy a large and important place in both branches of the healing profession. In a paper, by no means without humorous touches, the doctor traced out the history of medical photography from the time of Dr. Wright, who, in 1863, made the first essay on the subject, and in 1867 read a paper before the Photographic Society of Great Britain on the subject of "Photography as applied to Medicine and Surgery." The lecture was illustrated by a large number of slides by Mr. Pringle and Mr. Andree, thrown on the screen, and though they were not pictures of the most attractive subjects that could be found, they considerably added to the interest of the lecture. I must not omit to mention the high tribute paid to Mr. Pringle's slides by the lecturer, who said that they were perfect, in some cases, giving a better idea of the subject matter than the microscopical preparations themselves. Unfortunately, all lantern-slide makers are not Andrew Pringles, but there can be no doubt, as was pointed out, that, with a little care in the preparation of the

slides and in the development of the negatives from which they are made, photography will be made a most valuable assistant in the demonstrating theatre. Probably this will be its chief work, but it was also pointed out that it would be extremely useful for taking frequent photographs of various diseases, malformations, and so on, to enable the medical man to trace the progress of the cure or otherwise, and to make records for future reference in cases of peculiar or rare cases. In *post-mortem* cases it would be useful to make permanent the appearance of any organ before dissection, when it would really prove itself invaluable, there being no time for a skilled draughtsman to make a sketch. Photographs, properly taken, too, would have the great advantage of being absolutely accurate, none of the details being consciously or unconsciously exaggerated in accordance with the draughtsman's prejudices and predilections—a state of things which had in numerous cases rendered the drawings absolutely useless as correct records. It would be useful for recording the form of bacteria and bacillus (and here pictures of the cholera virus and anthrax were thrown on the screen) for purposes of comparison. In medicine it would record expressions, waste, overgrowth, and the course of various diseases, and by the use of colour-correct plates would give absolutely correct views of skin diseases which had now to be painted by hand to have the same effect. It would be most useful for the purposes of consultation, where several views of the parts in tape measures laid on them could be sent to the consulting physician, and advice given, and even in some cases the course of the operation correctly marked on the picture. Some pictures taken in the Lower Congo district by Mr. Andreæ, of the legs of some natives suffering from a peculiar kind of ulceration, were sent to Europe for consultation purposes with every success. The learned doctor, in the course of his remarks, said there ought to be provided in every hospital, facilities for making scientific records by means of photography. At present the results of medical photography were very poor, and the hospital authorities seemed to think that if they provided a camera they had done all that was necessary. That was not so. Proper apparatus and facilities should be provided, and the students should have some training in photography for the purposes of their profession.

The Chairman was delighted with the paper, and was firmly convinced that the photograph would in the near future be much used, because of the great facility it gave of demonstrating anatomical, physiological, and pathological subjects to a class.

Mr. Pringle believed there was not a word in the paper with which he could not cordially agree. Dr. Watson Cheyne had been photographing many of his patients in King's College Hospital, and during that week he was giving before the Royal College of Surgeons three lectures, illustrated by lantern-slides, on microbe pathology, a thing which had never before occurred. The time was coming when every medical school would have its photographic method of demonstration, and be provided with an optical lantern and screen. The Royal College of Veterinary Surgeons had given an order for the best possible optical lantern and apparatus. Men of average ability would be able with a little training to produce low and medium power photo-micrographs, but it would take a long training to produce high-power negatives. He emphasised the use of colour-correct plates, which were necessary to give the relative values of the respective colours of the tissues, especially in inflammatory skin diseases, though, happily, a screen was by no means necessary where they were working indoors.

Mr. Elder said they had set up a dark-room at Bartholomew's, and Dr. Patterson gave the names of several other hospitals where photography was being taken up.

Several other speakers followed, and the proceedings terminated with a vote of thanks to the reader of the paper.

AMATEUR PHOTOGRAPHIC SOCIETY FOR EXETER.—On the 27th ult. a meeting of Exeter gentlemen interested in amateur photography was held at the New London Hotel with a view to forming a society. Dr. Cheese was voted to the chair, and said the idea originated with Mr. Damant, a young gentleman from London, who found Exeter without an amateur photographic society, and thought such an important place ought to have one. After a conversation, Dr. Cheese, Messrs. Damant, Honey, Browning, and Lake, with Rev. J. Sparshatt as Hon. Secretary *pro tem.*, were appointed a committee to draw up rules. Nineteen present signified their intention of joining the Society, and the annual subscription was fixed at 7s. 6d. The Chairman thought, for a first meeting, the results were very gratifying.

Societies' Meetings.

BATH PHOT. SOC.—The annual meeting of this flourishing Society was held on February 25th, at the Royal Literary and Scientific Institution. The President, Mr. W. Pumphrey, was in the chair. The Treasurer's balance-sheet was produced; it showed a balance in favour of the Society, and was in all respects a most satisfactory one. The Hon. Secretary, Mr. W. Middleton Ashman, read a most carefully prepared and exhaustive report which showed that fourteen meetings had been held, at each of which a paper had been read or a demonstration given; there had been several excursions made which had all yielded good work. During the past year the numerical strength had increased by leaps and bounds, and a most commodious dark-room had been built. The Society had the nucleus of a good library, and, thanks to the kindness of Mr. C. H. Talbot, they possessed historic relics of his late father. The report pointed out that to Bath really belonged the honour of the discovery of practical photography, Fox Talbot's process ante-dating that of Daguerre by eighteen months. The President, Vice-President, and Committee were re-appointed, as was also Mr. W. Middleton Ashman as Hon. Secretary and Treasurer, a warm vote of thanks being accorded the latter on the motion of Mr. G. F. Powell. Mr. Friese Greene then read a paper on "Photography in an Age of Movement," and during the evening a new detective camera and other apparatus were exhibited.

BRIXTON AND CLAPHAM CAMERA CLUB.—The last meeting of this club was held on Friday, the 28th ult. A set of slides to the number of 180 was lent by the Editor of *Photography*. These were the medalled pictures in a recent competition, and comprised some capital specimens of work, especially in the landscape, instantaneous, and animal classes. The exhibition of these by the oxy-hydrogen lantern afforded a good evening's entertainment to the members and their friends. Next meeting, 14th inst., a paper by Mr. Bartrop on "Enlarging."

CARDIFF AMAT. PHOT. SOC.—The usual weekly meeting was held at the studio on the 26th ult., Mr. C. Lewis occupying the chair. There was a large attendance of members and their friends, the occasion being rendered interesting by an instructive lecture by Mr. Josty on "Home Portraiture," illustrated by models of studios. As the lecturer's remarks and advice applied more particularly to amateurs, the studios referred to were so constructed as to be portable, commencing with the humble back-yard arrangement, at a cost of a few shillings, to the elaborate lawn studio. A special feature was the model of "Josty's Movable Studio" working on a centre and four wheels, thus being in a position to always command a good light, in contradistinction to the fixed studio and movable curtains. The model was carefully inspected; and during the discussion Mr. Josty completed his lecture with a humorous description of men he had known in the photographic world, and his experiences generally, both home and continental.

CROYDON CAMERA CLUB.—A crowded and enthusiastic meeting of the supporters of the above club was held on Tuesday, 25th ult., at the Croydon Public Hall, under the presidency of Mr. H. Maclean, F.G.S. The Chairman having made a lengthy speech, in which he clearly and fully explained the support which had been promised, the advantages which the society offers, and the steps which it is proposed to take, announced the kind offer made by the Editors of the *AMATEUR PHOTOGRAPHER* to place their Silver and Bronze Medals at the society's disposal, which intimation was received with much applause. Mr. E. F. Smither moved, and Mr. A. E. Sergeant seconded a resolution, "That it is desirable to form a photographic society for Croydon." This was carried *nem. con.* The subscription was fixed at 10s. 6d.; the Committee to have the power to charge an entrance fee after 1st June. A *pro tem.* Committee was formed as follows: H. Maclean, W. T. Barker, E. F. Smither, G. Isaacs, L. De Clercq, A. Isaacs, W. J. Bishop, and M. Plimmer. Mr. De Clercq proposed that a hearty vote of thanks be accorded to Mr. Maclean for his skill and energy in organising the society, and for the efficient and urbane manner in which he had presided over the meeting. This was carried amid loud applause, and the gathering soon after adjourned until the 30th of March. Between thirty and forty gentlemen have offered themselves for election. Those desirous of joining should communicate with Mr. Maclean, Birdhurst Road, Croydon, or with any of the members of the *pro tem.* Committee.

DARLINGTON PHOT. SOC.:—The third annual conversazione and exhibition of the above Society was held in the Mechanics' Hall, on the 21st ult. The photographs sent in for competition showed, both artistically and technically, great merit. There were also on view a number of very fine enlargements, being prizes won by members in previous years. After a short speech of welcome from the President, Mr. E. Ensor, B.A., a number of excellent lantern slides made by the members were thrown on the screen by means of a powerful lantern, manipulated by Mr. R. A. Luck, which proved a most pleasing feature of the evening's entertainment. The list of awards, which was read by the Hon. Secretary, Mr. W. Garritte Brewis, was as follows:—For the best frame of six photographs—first, Mr. E. Ensor; second, Mr. T. Howlett. The AMATEUR PHOTOGRAPHER'S Bronze Medal for the best single picture in the Exhibition was also awarded to Mr. T. Howlett. For the best six lantern slides—first, Rev. C. G. Davis; second, Mr. P. J. Cooper.

HACKNEY PHOT. SOC.:—The exhibition on the 27th was a great success, being very largely attended. During the evening Mr. Hubert took a flash-light group with his new oxygen blow-through lamps. The exhibitors, in addition to the members' apparatus and work, were Messrs. Marion, who showed their latest novelties, Greenall's shutter being much appreciated; Watson and Sons, Acme camera and detective camera; Mawson and Swan, detective camera, the Giah; Abraham, shutter, lamps, etc., and the Ideal detective camera; Doublet, lanterns and accessories; Britannia Works, Ilford, Alpha and bromide work; Edwards, transparencies, prints, and isochromatic plates. Dr. Roland Smith, in the absence of the President through illness, opened the exhibition, and expressed the hope that it would prove instructive. He announced that Mr. J. Traill Taylor would give the next paper, on "Photographic Optics," on the 13th of March.

HOLBORN CAMERA CLUB.—The monthly lantern night was held on Friday, February 28th, when the Illustrated Boston lantern slides were shown. On Saturday, March 1st, the Club held their annual Cinderella dance and exhibition of pictures and lantern slides at Anderton's Hotel. At half-past 9 the prize winners were announced: Class 1, whole-plate and over: 1st, F. W. Edwards; 2nd, J. Brocas; 3rd, F. J. Cobb. Class 2, half-plate and under: 1st, H. Beckford; 2nd, R. Luxton; 3rd, N. Baker. Class 3, lantern slides: 1st, H. Beckford; 2nd, E. H. Bayston; 3rd, W. Chang. Class 4, best set of six prints by a lady member: Mrs. J. E. Smith. Several flash-light pictures were taken during the evening by Messrs. Chang, Cobb, and Bayston. Shortly after midnight, about thirty-five members proceeded to the residence of Mr. and Mrs. Dear (two most enthusiastic amateurs), who had kindly invited them to supper, during which a flash-light picture was taken, and print of same passed round before conclusion of the meal. The remainder of the evening was pleasantly spent.

LEEDS Y.M.C.A. PHOT. CLUB.—The third annual meeting of the above Club was held in the Society's Rooms, 13, South Parade, on Monday, the 3rd inst. There was a good attendance of members present, and new members admitted, the fee being, members of the association, 2s. 6d.; non-members of the association, 3s. 6d. On the appointment of officers Mr. Godfrey Bingley was unanimously re-elected President, Mr. J. A. Noble and F. Scaife Vice-Presidents, Mr. F. W. Fisher Hon. Secretary, and Mr. H. Eastwood Librarian. The remainder of the evening being spent with the lantern, some very excellent slides were shown by Mr. G. Bingley, F. Plews, T. Gaines, and F. W. Fisher.

LEITH AM. PHOT. SOC.:—On the 25th ult. the members of this Society gave a popular exhibition of their work in Junction Street Hall, which was crowded. Mr. Dewar presided, and said that during the past year the Society had increased its membership to 50, and it was encouraging to know that they had a number of lady members. Besides the usual monthly meetings, they had had several excursions, the results of which would be exhibited on the screen that evening. Over 200 specimens were exhibited, most of which showed remarkable taste and care in development. Mr. Guthrie, Secretary of the Society, has been successful in carrying off the only prize presented by the AMATEUR PHOTOGRAPHER for the best piece of amateur work in landscape, *i.e.*, "Inland Scenery."

LIVERPOOL AMAT. PHOT. ASSOC.:—The second ordinary meeting of the twenty-seventh session was held on Thursday, the 27th February, in the Public Sale Room of the Lancashire and

Yorkshire Railway Company, Tithebarn Street. The President, Mr. Paul Lange, occupied the chair, and there was a large attendance of members and their friends. The Chairman announced that Mr. Edward M. Tunstall had been appointed Hon. Secretary in the place of Mr. Walter Hughes. The attention of members was drawn to the extra meeting to be held at the City Hall, Eberle Street, on Thursday, 20th March, for which evening a concert was being arranged by Messrs. A. Jr. Cleaver and F. K. Glazebrook, to form the first part of the programme, and after which the President would conclude with his illustrated lecture on "Norway." The President also announced that the Council had arranged for a series of practical demonstrations in photography for the special benefit of beginners, to be given in the Club Rooms, 3, Lord Street, fortnightly. The Council had also arranged to exhibit the pictures (sixty in number), 15 by 12, of Mr. H. Tolley, the gold medallist, of Nottingham; these would be on exhibition for a short period in the Club Rooms. Mr. Benj. J. Sayce then submitted a most ingenious hand camera made at a very trifling cost, and meeting all the requirements of the amateur photographer. Other business being concluded, the general public gained admittance, and Mr. D. Lewis gave his paper on "A Fortnight in the Netherlands with a Camera," followed at 8 o'clock by Mr. W. P. Christian, with "Moor and Don, or Studies in Algeria and Spain;" both lectures were illustrated with Messrs. Archer's powerful oxy-hydrogen limelight lantern. The Manchester lantern competition slides, kindly lent to the Association, were then exhibited.

LIVERPOOL UNIVERSITY COLLEGE PHOT. SOC.:—The meeting of members was held on the 26th ult., Dr. Kohn, the President, in the chair. Mr. Paul Lange, one of the Vice-Presidents of the Society, read a paper on "Detective Cameras." The various working parts of a detective or hand camera were explained, and shown on a camera made by Swinden and Earp. A hand camera, Mr. Lange said, should be used for obtaining pictures suitable for lantern slides or enlargements, and the most convenient sized camera for this is one taking a 5 by 4 picture. The lens, which the lecturer said was the most important part, should be of the best quality, of medium focus, and for 5 by 4 work a half plate lens should be used. The shutter was the next part to be considered, and the more rapidly this worked the better was the result. Metal work shutters were objectionable, especially for sea work, and the Kershaw principle was said to be the best. As regards plates, Mr. Lange said he used the Ilford ordinary (yellow label), and the developer he employed was the washing-soda one—the pyrogallol he added dry. This gave a greenish negative, and one not very nice to look at, but one giving splendid prints, especially platinotypes. The plates he backed with red paper, and by this means he avoided loose paper in packing the plates, and also kept his plates in better condition. Mr. Lange exhibited some fifty of his best slides by the limelight lantern.

LUTON AND DISTRICT PHOT. SOC.:—A successful meeting was held on the 24th ult. There was quite a large show of apparatus, and many prints by members, from 25 by 20 down to quarter plate. Messrs. Carruthers, Percival, Boutwood, and Morrison contributing platinotype, and Wardill, Howard, Davis, Roberts, and Bunyan silver prints. Mr. H. Edwards showed bromide enlargements, and Mr. Davis a number of stereoscopic views. Instrumental music was given at intervals during the evening. Owing to the lengthy programme, Mr. A. W. Howard's paper had to be postponed.

NORTH MIDDLESEX PHOT. CLUB.—On Monday, February 24th, Mr. G. Davison delivered a lecture upon "Pictures by Photography," illustrating it by about one hundred photographs taken by himself. After speaking of the advances that photography had made, and the restrictions which it imposed, he proceeded to review what are generally considered the rules of art, and remarked that exceptions to these were almost as much the practice as not among the best photographers, and instanced Mr. Robinson and others, who had taken some of their best pictures with the sun in front of the camera in direct contradiction to one of the best known rules. Again, another rule was that the horizon line should not be in the centre of the picture; this and many other rules he referred to, and had one or more pictures; to prove that they might sometimes be departed from, and advised that the simplest subjects be chosen, namely, those with as little in them as possible, so that the interest might be centered upon the principal feature, and to

endeavour to introduce originality and boldness into their pictures. He then referred to the faults to be avoided, and the merits to be sought, giving force to his words by a photograph showing that particular feature. The whole lecture was given in such an interesting manner, and was of such a practical nature, that few could go away without having learnt something. A hearty vote of thanks to Mr. Davison concluded the evening. Monday, March 10th, members' lantern night. Visitors invited; ladies admitted.

ROSSENDALE PHOT. ASSOC.:—On the 24th ult. *Photography* slides were exhibited, the President occupying the chair. Mr. S. Compston, with his oxy-hydrogen lantern, fulfilled the duties of exhibitor in a commendable manner. The usual votes of thanks terminated the proceedings.

PERTSHIRE SOC. OF NATURAL SCIENCE (PHOT. SECT.):—A meeting of the section was held on Saturday, March 1st, at 8 p.m., Mr. J. W. Munro, B.A., the President, in the chair. The minutes of the last meeting were read and approved, and the gift of a copy of W. K. Burton's "Photographic and Photo-mechanical Printing Processes," from his brother, Mr. Cosmo Burton, B.Sc., was announced. Mr. W. Frew, F.C.S., then read a paper on "Detective Cameras," in which he described the construction and use of such cameras. The paper was illustrated by cameras from Marion and Co., Fry and Co., and Messrs. Lowdon, of Dundee, and by specimens of work done by them. A display of lantern slides then took place, the contributors being Messrs. Ellison, Frew, and Reid, of University College, Dundee, and Fry and Co. The meeting was closed by votes of thanks to Mr. Frew, Mr. Burton for his gift to the section, and to the Chairman.

SHEFFIELD CAMERA CLUB.—The first soirée in connection with this Club has been held. A considerable quantity of photographic apparatus was displayed. Messrs. Marion and Co. and R. and J. Beck, of London, contributing lenses, and the Eastman Company furnishing some very interesting enlargements. The President, in the course of a short address, referred to the origin of the Club, and said some of the members when they joined were novices in the art, but others were men of great experience and ability, ready at all times to give advice and valuable help to the recruits. In their Club the professional element did not enter, not that he would say one word in disparagement of the professional photographer; but he felt strongly that a society could not do well which had both the professional and amateur within its ranks. To the *AMATEUR PHOTOGRAPHER* was due the credit for the great and rapid advancement of the art of photography during the last few years. During the evening Mr. Winder, with the aid of a lantern, showed some of the members' slides; piano solos and songs were rendered, and Mr. R. Watts gave some humorous recitations. A flash-light photograph of a group of ladies and gentlemen was also taken by Professor Arnold.

WEST SURREY AM. PHOT. SOC.:—A meeting was held at Crichton Hall, Clapham Junction, on the 26th ult., and was devoted to an exhibition of slides upon the screen by the oxy-hydrogen light. Messrs. Davison, Lyell, Squire, Bradley, Graham, Miall, and other members brought transparencies, and in addition the Society is indebted to the Editors of the *AMATEUR PHOTOGRAPHER*, who kindly sent down a parcel of about 100. The same paper also had on exhibition the "Enlargements" sent in to one of their competitions, and they were much admired. Several gentlemen have joined the Society since it moved into its new quarters, and at the conclusion of this meeting fresh names were handed in.

WEST LONDON PHOT. SOC.:—At the ordinary meeting Mr. G. F. Blackwood presided. The Chairman called upon Mr. Charles Dixon for his paper on "Holland House," the Secretary (Mr. Hodges) operating the lantern. The paper, which was of a very interesting and instructive nature, was prefaced by a short description of the process employed in the production of the slides. They were, with the exception of a few on chloride dry plates, all produced by the wet collodion process, by reduction in the camera from 9 by 7 negatives, which were also produced by the same method of production. In the case of some of the interiors, exposures of two hours had been given, the plates being backed with wet blotting paper to keep the films moist. The lecturer then traced the history of the house from the time it came into the possession of the Holland family in 1600 down to the present time, illustrating his remarks with a large

number of interior and exterior views of the house, and of the park and grounds. A vote of thanks having been accorded to Mr. Dixon and the Secretary, Mr. Wilson formally presented the Society with a number of photographic works of reference as a nucleus for the formation of the Society's library. The Secretary suggested the appointment of a Librarian, and invited members to volunteer for the office. After some discussion it was decided to refer the appointment of the Librarian to the Council for further consideration. The next ordinary meeting will be held on the 14th March, when Mr. H. Selby will read a paper on "Stripping Films."

Exhibitions.

EXHIBITION AT KIDDERMINSTER.

THE Worcestershire Camera Club (established in 1888; present number of members, 63) opened their first exhibition of photographs in the Museum and Art Gallery, Kidderminster, on March 1st. About 250 frames are hung on the walls of the excellently-lighted gallery, while in the museum below, lantern slides will be exhibited on three evenings in each week, and there is a selection of apparatus shown by Mr. R. Jenkins, of Mill Street, Kidderminster.

Medals and prizes were offered in sixteen open classes, and in six classes restricted to members of the Club. But Class XII., for pictures illustrating "The Vicar and his Guests" (offered by *Photography*), and Class XXII. (pictures from negatives on Fry's plates) failed to attract any competitors.

The judges were Mr. Charles W. Hastings (of the *AMATEUR PHOTOGRAPHER*) and Mr. W. Jerome Harrison, F.G.S. (Major Nott, who had promised to assist, being called abroad was prevented from attending), and their awards were as follows:—

Class I. (Professional Portraiture).—Silver medal to Harold Baker, of Birmingham; bronze to T. G. Whaite. A good class, including 35 frames, and some fine work by Byrne, Draycott, R. H. Lord, Dew, Beaufort, etc.

Class II. (Landscape or Seascape, professionals).—Silver medal to J. P. Gibson; bronze to E. Greaves.

Class III. (Landscape or Seascape, amateurs).—Silver medal to J. W. Charlesworth, for three exquisite views in Whitby, of which "Now Came Still Evening on" is most pleasing; bronze to J. K. West for "Views on the Dart."

Class IV. (Prints from Ilford plates).—Silver medal to Clarence James for three fine cloud effects; bronze to J. E. Austin.

Class V. (Genre, professionals).—Silver medal to F. Whaley, for print in red chalk, "Can a Mother's Tender Care Cease towards the Child she Bare?" bronze to W. W. Winter, for "Look, Mamma!" Messrs. Anckorn, Greaves, and J. P. Gibson also send good work.

Class VI. (Genre, amateurs).—Silver medal to R. S. Redfield, of Philadelphia, for "Hesitation," a boy about to bathe; bronze to A. M. Morrison, for "Pastoral Studies." A very good class, including work by C. S. Roe, T. M. Brownrigg, J. L. Austin, G. Brightman, A. R. Dresser, E. C. Middleton, etc.

Class VII. (Enlargements, professionals).—Silver medal to T. G. Whaite, for "Dinant Cathedral;" bronze to F. Whaley, "Sunset on the Don."

Class VIII. (Enlargements, amateur).—Silver medal to W. H. Kitchin, for "Leopard;" bronze to H. D. Arnott, "Somerleyton Hall."

Class IX. (Enlargements on Ilford paper).—Gold medal (with-held); silver to F. Whaley, for "The Choristers," a group of geese, with girl and windmill in background.

Class X. (Lantern Slides).—These were all judged on the screen; twenty-five sets of six each were shown. Silver medal to J. E. Austin; bronze to Edgar Lee.

Class XI. (Instantaneous, amateur).—A poor and small class. Silver medal to W. H. Kitchin, "Yachts;" bronze to R. S. Redfield, for "Making Friends," a study of child and calf.

Class XIII. (for Societies).—Prize album to Birmingham Photographic Society. A good frame was also sent by the Tunbridge Wells Society.

Class XIV. (Prints on Alpha Paper).—Silver medal to J. E. Austin; bronze to A. R. Dresser.

Class XV. (Interiors, professionals).—Silver medal to J. P. Gibson; bronze to Frith and Co.

Class XVI. (Champion Class).—Gold medal to W. W. Winter, of Derby, for "The Miss Beresfords." But as "My Mammy" and "Perplexed," by the same worker, were also shown, it must be conceded that Mr. Winter was very strongly represented. This strong class also included H. P. Robinson's new picture, "Gossip on the Beach," and the best work of Messrs. F. Whaley, Byrne and Co., R. H. Lord, G. Phoenix, Frith and Co., Redfield, J. E. Austin, and J. P. Gibson.

Every photographer in the midlands should visit Kidderminster before March 15th (when the exhibition closes), if it be only to make a careful study of the work in this class.

The prizes for members' work were carried off by Messrs. A. T. Bucknall, C. J. Carter, and A. Comber. The local work was not remarkable for either numbers or quality; but we believe the effect of this exhibition will be to act as a stimulus and an example, and that another year will see a marked change in these respects. The Worcestershire Camera Club are fortunate in having for a President Mr. M. Tomkinson, whose magnificent collection of Japanese objects has obtained European celebrity. The exhibition includes many clever photographs by Mr. Tomkinson, but they were not entered for any competition. The Secretary of the local society, Mr. William Ray, has also been indefatigable in his efforts to promote the success of the exhibition; while Messrs. Audrey and Grove have given valuable aid with the lantern. Altogether the Kidderminster Photographic Exhibition is a good one; it is well managed, and the pictures are admirably grouped and hung. It should do much good to the art locally, and we trust that it will secure a good attendance.

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HASTINGS AND ST. LEONARDS PHOTOGRAPHIC SOCIETY'S EXHIBITION.

(Communicated.)

THIS society, which represents a large section of the fair county of Sussex, although only twelve months old, has held its first public exhibition at the Memorial Hall, at Hastings.

The opening ceremony took place under most favourable auspices on Tuesday last week. The again and again Mayor of Hastings (Mr. W. Stubbs) presided, supported by Mr. Wilson Noble, M.P., who originated the society, and is its President. He was formally introduced by the Rev. A. B. Cotton, of the

Hanging Committee, and one of the moving spirits of the society.

Some pretty and well-deserved compliments passed, and the formal proceedings were brought to a close by the President presenting to the Mayor the two numbers already out of the work "Sun Artists," with a promise of the next coming number, as a souvenir of the occasion; and allusion was made to the striking coincidence that the artists so represented or selected were the three appointed judges of the exhibition, namely, Messrs. J. Gale, H. P. Robinson, and J. B. B. Wellington.

The society, probably having no doubt that they would be keenly competed for, was somewhat lavish in its offer of medals in this its first exhibition, particularly when it is borne in mind that the competition is confined to work of residents in the county of Sussex.

The judges gave their first award (the gold medal presented by the President for the best photograph in the exhibition) to No. 29, a charming little picture of San Giovanni and Paolo, Venice. On the award being made known, it turned out that this little gem was by Mr. Wilson Noble himself, who requested that this award might be reconsidered; the judges, under these circumstances, awarded it to the series by Mr. Brooker, the Hon. Secretary, Nos. 110 to 129, a very interesting set of photographs of local scenery and incidents.

The silver medal, for the best enlargement, went to No. 244, "Rough Day at Jersey," a fine sea piece, by Mr. A. R. Dresser. Bronze medals were awarded to Nos. 23 and 25, two interiors, by Mr. J. Smith; to No. 147, "A Summer's Day," by Mr. E. J. Bedford; and to No. 172, "On the Ribble," by Mr. R. H. Tiddeman.

The bronze medal in the scientific section went to No. 227, microscopic enlargements, by Messrs. J. W. Thomas and Co.

There was little or no competition in portraiture, so the silver medal in this class was withheld.

Throughout there is much promising work among the members, and they seem to have applied themselves diligently to illustrating their district locally. Situated as they are, with charming surroundings, in one of the fairest of the counties in the south of England, we shall look forward to work of increasing interest from the members of this enterprising society.

There is an added attractiveness to the exhibition in the display of photographs not in competition, notably by the three judges, who have sent fine specimens of their work.

To Correspondents.

THE insertion of **QUERIES** and **ANSWERS** is attended with much labour, and it is requested that the questions asked and the answers given shall be short and to the point. No charge is made.

All communications for the columns are to be addressed to **The Editors, "Amateur Photographer,"** 1, Creed Lane, Ludgate Hill, London, E.C.

RULES.

1. Write clearly and distinctly on one side of the paper only.
2. Write each Query or answer on a separate sheet of paper.
3. Write the name and address legibly on the back of each communication, and sign all Queries and Answers with name or *nom de plume*.
4. All matters for these columns **MUST** be received by **TUESDAY MORNING'S POST**.
5. The Editors do not undertake to answer questions by post.
6. In answering Queries correspondents are requested to mention, in every instance, the number and full title of the query referred to.

QUERIES.

3526. **Posing, etc.**—I have to photograph a group of about thirty young persons. I purpose having for a background a hedge or a grass bank. Can any of your numerous readers oblige me with a few hints as regards posing, etc.?—**ARGENTI NITRAS.**

3527. **Micro-Photography.**—Will someone kindly tell me as a rough guide what would be a suitable exposure for powers 1 in., $\frac{1}{2}$ in., and $\frac{1}{4}$ in., and how to illuminate an ordinary microscopic lamp, and also how a blue-tinted chimney would affect the exposure?—**MICRO.**

3528. **Turkey**—I am going to Constantinople at Easter, via Vienna and Belgrade, ordinary train, not Orient express. Will there be any difficulty in getting a camera through the Turkish Custom House? Is photography permitted in Turkey?—**R. G. C.**

3529. **Reducer.**—Will someone kindly tell me the best and simplest reducer for silver prints, both before and after toning; is there a fixing solution that could be used directly after toning that would not destroy the colour of the print?—**G. B.**

3530. **Elkonogen and Hydroquinone.**—Can anyone recommend the formula of elkonogen and hydroquinone mixed, and give their experiences, as given in Fallowfield's "Remembrancer" for the quarter ending March? Also whether the formula of elkonogen and glycerine as a preservative will keep, and is a reliable developer as given in the same?—**G. B.**

3531. **Bromide Prints, Reducer for.**—Will someone kindly tell me the best and simplest reducer for bromide prints, and when it should be used? There is one mentioned in *Photographic Answers* for February. If someone could tell me from practical experience if it is reliable, would they kindly give me the formula? It must be entirely under control.—**G. B.**

3532. **Lantern-Slide Making.**—Will any reader give me the name of the best guide or book of instruction on lantern-slide making.—**E. N. P. (Malta).**

3533. **Over-Exposed Plate.**—Can any reader inform me the best thing to do with an over-exposed plate, when developed with the following solutions:—

	No. 1.	
Hydroquinone	...	80 grs.
Bromide of potassium	...	15 "
Sulphate of sodium	...	1 oz. avoird.
Water	...	10 ozs.

No. 2.

Soda hydrate	...	50 grs.
Water	...	10 ozs.

—**RAGA.**

3534. **Elkonogen Developer.**—Can any reader of the **AMATEUR PHOTOGRAPHER** tell me of a reliable elkonogen developer which will suit Eastman's celluloid films used in a detective camera?—**CLEEK.**

3535. **Films, Exposing.**—I would be glad to know the best manner of exposing films, say 10 by 8 ins., in an ordinary dark slide. The metal carriers and wood backs supplied by the Eastman Company for their paper negatives are not quite satisfactory in this case, and their roll-holder is unsuitable for exposing only a few films at one time.—**R. M.**

3536. **Madeira.**—Any information as to exposure, etc., will be esteemed. Can plates and chemicals be procured in Funchal?—**LANGSIDE.**

3537. **Isle of Wight.**—What places of interest are there in the Isle of Wight? I intend visiting there shortly, and should like to take my camera with me. Also name of a good and cheap hotel at Ryde or Ventnor?—**NERO.**

3538. **Additions to Lenses.**—Would Wm. London tell me an address to which I could write for one of the spectacle lenses which he mentions in his letter? Would he also inform me exactly what to ask for, and suggest how I could fix the said lens at the rear of a Steinheil's 11 in. applanatic doublet, so as to admit of the focus being varied?—**PHOTOPHONO.**

3539. **Precipitation of Bromide Paper Developer.**—Would anyone be kind enough to tell me the reason of the following? In Eastman's developer for bromide paper I find that in the two solutions the iron in one is thrown down, and restored to its original form of crystal, and that, too, after it has been fully dissolved. I have used citric instead of acetic acid in this solution. In the other (No. 2) the oxalate is also thrown down in same way, after being dissolved. Both have been dissolved in hot water, and left before a fire as well. I presume it is the cold of the dark-room. Can any of your chemist readers give me the reason? Would gladly send them the formula. After developing, and after they have been mixed, the iron only is always

deposited after a day or two. This doesn't matter, but before development it is a different matter.—COLONIST.

3540. **Hand-Camera.**—Which is the best hand-camera to buy, at about £7 or £8? I see Fallowfield's is well spoken of.—COLONIST.

3541. **Bromide Paper.**—Will some one tell me the best way of vignetting landscape prints on this paper, when printing by gaslight? What is the best form of frame and mount for four or five whole-plate prints in one frame?—A. L.

3542. **Purple-Blue Toning.**—How can I obtain a rich purple-blue tone on ordinary albumenised-sensitised paper?—F. L. A.

3543. **Lens for Hand-Camera.**—I am making a quarter-plate detective camera, carrying twelve plates in metal sheaths, and changed by lever and bag at top (something like the Diamond detective). Would some of your readers kindly put me right with regard to the proper kind of lens to get? It should be of fixed focus, and low in price. Would the lens of Lancaster's quarter-plate Instantograph be suitable? Any information will oblige.—ONE IN A FIX.

3544. **Plates.**—Can any brother photographer please tell where I can get Ilford plates in Antwerp and Brussels?—TRAVELLER.

3545. **Reducing.**—Would any brother amateur please give me a good formula for making oxone-bleach, for the purpose of reducing the density of negatives, and how to use the same?—IGNORAMUS.

3546. **Angle of Lens.**—Is it really a fact, as stated by E. J. Feilden in answer to 3403 (Lens), that "the larger the lens the greater the angle of view"? as it does not accord with my reading.—BARON.

3547. **International Camera.**—Can some one kindly inform me whether Lancaster's quarter-plate International camera and Rectigraph lens is one which is thoroughly reliable and a good worker for groups, views, and architecture?—POOR CHINESE.

3548. **Stereo Slides.**—Are the glass stereo slides on ordinary or specially prepared plates; where can they be got; and also where can I get the ground-glass to back them with?—STEREO.

3549. **Stereo Slide.**—Amongst the stereo slides sent in for competition there is one of a "Water Mill"; the slide is marked "Rosset Mill." Will the owner kindly let me have a good print (silver) of the same, as I would very much like to have one? I am willing to pay; he need not trouble to mount it.—S. STAMP, 25, Wellington Street, Stockton-on-Tees.

3550. **Definition Wanted.**—Will some kind reader give the meaning of the following, and how to prepare it:—"A solution of gelatine holding in suspension sulphate of barytes or finely powdered kaolin?" (Taken from page 616 of the "British Journal Photographic Almanac.")—PUZZLED.

3551. **Photo and Tricycle House.**—Will some one kindly inform me where I can get a moveable shed which would do as a developing room and tricycle house?—WANDERER.

3552. **Bromide Enlargements.**—Can any amateur inform me the best formula for enlargements with elikonogen, and is it better than iron developer? Can anybody who develops with hydroquinone tell me if it is better than pyro developer?—E. A. B.

3553. **Norfolk Broads.**—Would some reader kindly give me some information about a holiday trip on the Norfolk Broads, such as cost of hiring small yacht (to accommodate about three), etc.; also a list of books published about them? I have read Suffling's "Land of the Broads." Any information will oblige.—A CONSTANT READER.

3554. **Featherweight Slides.**—Will any reader who has tried the feather-weight slides kindly give experience for whole-plate, and where I could purchase same, and what price?—AMATEUR.

3555. **Opal Printing-Frame.**—How can I make a frame for printing opals?—H. M. S.

3556. **Lancaster's Combination Lens.**—Will some user of this lens kindly give his experience? Please state its principal faults. I have looked through back volumes, and have found several queries similar to above, but no replies.—H. M. S.

3557. **Fitting Lens with Rack and Pinion.**—I want to fit a whole-plate wide-angle lens with rack and pinion. Lens has Iris diaphragm. I am a bit of a mechanic, and want rough instructions for doing above.—H. M. S.

3558. **Stereoscopic Effect.**—Would superimposing one image produced by one lens of a stereo camera upon the image produced by the other give a stereoscopic effect? Has this been tried? I mean to have the two images taken on one plate at same exposure.—R. H. T.

QUERIES UNANSWERED.

Jan. 10th.—Nos. 3353, 3356, 3367.

Feb. 7th.—Nos. 3417, 3430, 3435.

14th.—Nos. 3437, 3441, 3452, 3454, 3457.

21st.—Nos. 3468, 3468, 3469, 3471, 3472, 3476, 3477, 3478, 3484, 3486, 3487, 3489, 3490, 3491, 3493, 3494, 3502.

28th.—Nos. 3505, 3508, 3514, 3517, 3518, 3521, 3524.

ANSWERS.

3328. **Developer for Foreign Travel.**—I would give washing soda and dry pyro the preference. See full details in "Scraps," Ilford issue, for February. I have abandoned hydroquinone for negatives entirely; many of my friends, after careful trials, have also. If "Vectis" sends me address, I will hand it to a prominent member of the Photographic Society of India, who is at present in Liverpool; he may be able to give you some hints for tour in East.—T. S. MAYNE (address with Editor).

3339. **Oiled Glass.**—The matter is one that the querist should experiment in for himself.—THE SMITH.

3347. **Cloud Negative.**—If the negative be worth the trouble, make a positive on glass, and from that make another negative on celluloid. You can then print from either side, and have no more trouble with oil or vaseline.—THE SMITH.

3348. **Leintype.**—I believe the process is protected by patent, and may not be used without license.—THE SMITH.

3357. **Exhibition Matters.**—All pictures at public exhibitions must be mounted; style of frame optional (except Oxford and ovals), usual style oak slip with small gilt fillet—not too much margin on cardboard mount. Have an afternoon at Crystal Palace Exhibition, opens on Tuesday, March 11th. Look out specially for the exhibit of Liverpool Amateur Society; you will find some handsome designs. For platintype I prefer the narrow black ribbed slip. 12 by 10: one in a frame sufficient. Whole-plate may be also singly, or four may go in one frame. Glass, of course, in all framed pictures, close to the mount and picture.—T. S. MAYNE.

3369. **Enlarging Camera.**—Messrs. Lancaster would no doubt be happy to give you the information.—THE SMITH.

3372. **Enlarging.**—Make a negative of your finished photograph, then enlarge. I have done several on Morgan and Kidd's opals. I find good results very simple. Develop with hydroquinone (Thomas' formula, half strength).—T. S. MAYNE.

3372. **Enlarging.**—The querist will find all he wants to know in the series of articles by Mr. Hepworth, and the competitive papers which have appeared in recent numbers. The subject could not well be epitomised in an "answer."—THE SMITH.

3376. **Magnifying Lantern Slides.**—The address of Mr. R. H. Bow, C.E. (inventor of the "Diaphoscope") is 7, South Gray Street, Edinburgh. I overlooked this query or would have answered sooner.—P. Q.

3386. **Flashing Light by Electricity.**—If "Electra" will send his address, I will send him some specimens of flash-light pictures done by pneumatic means. I have never tried the electric current, and can't see where any advantage could result.—T. S. MAYNE (address with Editor).

3392. **Lantern-slide Making.**—Simplest and most certain for an amateur. I give preference to Mawson and Swan's plates, using Thomas' hydroquinone developer, full strength. Great variety in tone can be obtained with the new Alpha plate, but use the Ilford formula for development. See also answer to 3504.—T. S. MAYNE.

3410. **Tripod.**—McKellen's own. A friend of mine has one half-plate size, which he got with a stereoscopic camera last week, which he does not require. Send me your address.—T. S. MAYNE (address with Editors).

3410. **Tripod.**—McKellen's tripod, which is made to fit his patent turntable, can be bought separately.—THE SMITH.

3414. **Lantern Screen.**—Washable lantern screens are not expensive; send for list A. E. Dyson, 46, Water Street, Huddersfield. The results, specially with limelight, far superior to the semi-transparent heating so often used.—T. S. MAYNE.

3414. **Lantern Screens.**—A process in which oxide of zinc is used is mentioned by Mr. Hepworth in the AMATEUR PHOTOGRAPHER, No. 274.—THE SMITH.

3422. **Lens for Detective Camera.**—The best lens is always the cheapest, and for the size you want you cannot do better than get a $\frac{1}{4}$ in. Ross R.S. or a $\frac{1}{4}$ in. Dallmeyer R.R.—THE SMITH.

3460. **Hand Camera.**—I should not recommend your correspondent to buy a Facile until he has seen Rouch's Eureka. It has several advantages over the Facile.—E. F. B.

3482. **Copying.**—Rack out your camera to twice the focus of the lens, and place the print the same distance in front. Focus carefully, use a small stop, avoid all false reflections from the glass surface. Use a slow isochromatic plate, and in a fairly lighted room and with stop $f/16$ give about four minutes. The method of printing will depend on the character of the resultant negative and individual taste.—THE SMITH.

3464. **Toning.**—Black tones can be obtained as follows:—Tone with

Chloride of gold...	...	1 gr.
Phosphate of soda...	...	20 grs.
Water...	...	8 ozs.

This bath does not keep. Tone deeply, fix, and wash moderately, then put prints into a weak solution of acetate of lead. A white precipitate will be produced. Pour the solution away, and pour some more of it on; let it remain about three or four minutes, and wash well in water. The acetate of lead decomposes

the hyposulphite of soda, and possibly forms some sulphide of silver. These prints are supposed to be as permanent as others. The best process is, however, Clark's new platinum process. Tone with:

Chloro-platinite of potassium...	4 grs.
Nitric acid...	3 drops.
Water...	8 ozs.

Or else use a solution of

Oxalate of potash...	42 grs.
Water...	1 oz.

Acidulate with a few drops of nitric acid, so as to turn blue litmus paper red, and add chloroplatinite of potassium in about the same proportion as above; fix and wash as usual. I find it best to print deeply.—J. G. P. VEREKER.

3465. **Stereography.**—A pair of stereo lenses may be fitted to almost any parallel bellows camera of half-plate or larger size, and a camera bellows maker would make a stereo division for a small sum.—THE SMITH.

3473. **Using Camera in Hand.**—I should say Mr. Winn had better focus a distant object, and make a mark on his camera, so as to be able to fix it at once at the focus for distant objects. All objects beyond a certain distance will then always be in focus. This point he can find by experiment. The following table, published some time ago, may be of use to him:—Fix the camera at the equivalent focus, then for a lens with a 9 in. focus the disc of confusion will be less than $\frac{1}{16}$ in. at the following distances in feet: $f/5$ at 137, $f/10$ at 68, $f/15$ at 45, $f/20$ at 34, $f/30$ at 23, $f/40$ at 18, $f/50$ at 14, $f/60$ at 12 ft. Every object with any stop will be absolutely in focus at 180 ft.; vide Gotz's or Suter's tables. He will want a finder, probably, but these can be cheaply got, or else he can use a concave lens attached to the camera. He would probably be able to buy one in Dresden.—J. G. P. VEREKER.

3479. **Hydroquinone for Lantern Plates.**—Thomas' formula with Thomas' plates gives good results.—E. F. B.

3492. **Test Papers.**—"G. B." will find all about the test papers usually used, in works on practical chemistry. They can be bought in books from photographic and, indeed, most chemists. The ones most used are red and blue litmus, turmeric, and Brazil wood papers. Red litmus turns blue in alkaline solutions, and turmeric paper turns from yellow to brown in the same solutions. Colonel Ross says turmeric paper also turns red in a solution of boracic acid, and orange in zirconium solutions. Blue litmus turns red in acid solutions. Brazil wood paper turns from red to yellow in hydrochloric acid. Starch paper is sometimes used. Iodine turns it blue, and acetate of lead paper turns black in the presence of sulphuretted hydrogen.—J. G. P. VEREKER.

3495. **Rapid Rectigraph.**—Rectigraph means straight-drawing, and rectilinear straight-lined. The two terms are synonymous.—J. G. P. VEREKER.

3499. **Hand Camera.**—I recommend Rouch's Eureka; but I have only inspected, not used, others.—E. F. B.

3503. **Toning.**—There is no such formula.—E. J. FIELDEN.

3504. **Alpha Lantern Plates.**—Black tones. Develop with Ilford formula as given in each packet. Fix and tone at one operation.

Water...	10 ozs.
Hypsulphite of soda...	2 1/2 "
Acetate of soda...	1/2 oz.
Sulphocyanide of ammonium...	1/4 "
Gold...	4 grs.

This may be used over and over again. When action becomes weaker, you may leave your slides in all night; no harm will result. Under-exposure and fixing in ordinary hypo gives a greenish picture.—T. S. MAYNE.

3507. **Dry Powder Developer.**—I have used this for months, and find it acts well for all pictures, instantaneous or not; also for bromide paper. It merely requires to be kept in a dry place. As one of the powders is not very soluble, I find it best to triturate it in a small mortar, and gradually dissolve it.—G. H.

3507. **Dry Powder Developer.**—I find the developer very good, and keeps well; have had some twelve months, using no other protection than cardboard box kept in a dry place. To keep ready for use, mix two packets of each in 3 ozs. water, which will develop eight quarter-plates by using a glass-stoppered bottle. Suits instantaneous pictures well. If querist writes me, I will give him further particulars and a sample packet, as I do not know if he refers to the Oldham dry-powder developer.—ALPERUM (address with Editors).

3507. **Dry Powder Developer.**—This is a very fair developer, especially for travelling. I have got some most successful results from using it. It will keep any length of time if kept well corked in the bottles it is sold in. Be careful to keep it in a dry place. As to your last question, certainly; why not?—W. A. J. CROKE.

3509. **Thomas's Plates.**—The best means is practice. It is impossible to give rules, as every exposure varies according to subject and light.—E. J. FIELDEN.

3510. **Stops.**—This cannot be answered without knowing the diameter of the stops. Ascertain this

and divide the focal length thereby, the result being the number of stop.—E. J. FEILDEN.

3510. **Stops.**—Simply divide the focal length by diameter of stop. If the stop is $\frac{3}{8}$ in. in diameter, it will work at $f/16$.—HOBBS.

3511. **Clearing Bath.**—Acetic acid, 1 drm. to 1 pint of water. I found the yellow to cease by diminishing the alkali used.—E. J. FEILDEN.

3512. **Clearing Bath.**—All bromide prints should be cleared both before and after fixing. The following is from "Fallowfield's Annual":—Acetic acid, 1 drm.; water, 32 ozs. Citric acid may be used instead of acetic, in which case use $\frac{1}{2}$ oz. to the pint of water.—W. A. J. CROKE.

3512. **Time Shutter.**—Newman's patent. I know of nothing better. Mine, a 10 by 8, answers well, and does not get out of order. To be had at Hinton's, Bedford Street.—T. S. MAYNE.

3512. **Time Shutter.**—I can recommend the Optimus shutter, but I should advise any exposure over $\frac{1}{2}$ sec. to be made by hand.—E. J. FEILDEN.

3513. **Hand-Camera.**—A camera to take pictures 5 by 4 is such an awkward size. Why not get Fallowfield's hand-camera 4 $\frac{1}{2}$ by 3 $\frac{1}{2}$, as this is the most useful size for lantern slides. For opinions of this camera see last week's answers.—W. A. J. CROKE.

3513. **Hand Camera.**—Call at 43, Charterhouse Square—the Photo Supply Association—and see Swinden and Earp's patent, the most portable and reliable I have ever used; no double backs, no tin sheaths for plates. Ten friends of mine have abandoned all theirs, and provided themselves with the above. I may mention in mine, a 5 by 4, I have a Taylor's detective lens, 6-inch focus. I was induced to decide on this after seeing the superior work done by Taylor's lens when assisting in judging hand-camera productions.—T. S. MAYNE.

3515. **Trafalgar Plates, etc.**—I have great pleasure in saying a word in praise of these plates, as I have been more successful with them than with any other make that I have used. They give good density, and yield vigorous negatives full of detail; and they allow of great latitude in exposure. The hydroquinone developer used in developing these plates I have found to be excellent.—W. J. E.

3515. **Trafalgar Plates, etc.**—Have used Wood's Trafalgar plates, also sensitised paper. The plates are as good as any on the market at the price. Have never used the acetate bath, but have got excellent results with borax. Cannot say anything about the developer.—T. PROBERT.

3515. **Trafalgar Plates, etc.**—These plates are very slow, and suit a beginner admirably. I find the borax bath gives the best tones to Wood's sensitised paper, which is likewise excellent. I have not had enough experience of the hydroquinone developer to give an opinion on it.—BORROWDALE YEWIS.

3516. **Lancaster's Instantograph.**—Lancaster's Instantograph is a very useful, handy little camera, well worth its price. The lens is a very good one for all round work, especially when taking instantaneous pictures. The camera is strong and well made. "Beginner" would no doubt find the Instantograph better suited to him than the International. There is very little to choose from between Underwood's and Lancaster's, but I prefer the latter.—F. L. A.

3516. **Lancaster's Instantograph.**—This is a most excellent camera for the money. The lens is very good, and the camera is extremely strong, well made, and portable. The shutter does not vibrate camera. On the whole the International is even better, being more expensive. They are both splendid cameras, as I know from experience. Underwood's cameras are not any better than Lancaster's.—R. F. JOHNSTON.

3516. **Lancaster's Instantograph.**—There is no better camera for the money. A fair lens for a beginner, but not quick enough for very fast work. No; both are good cameras. The latter has perhaps a greater reputation, but this is practically a matter of opinion.—J. EDWARD.

3519. **Toning Lantern Slides.**—See 3504, re Alpha plates. For the ordinary transparency plates, produce a weak, thin slide; after fixing and washing well, bleach the image with mercuric chloride; again wash well; tone with

Hot distilled water	...	...	8 ozs.
Sulphocyanide of ammonium	...	...	30 grs.
Carbonate of soda	...	...	3 "
Saturated solution of hypo	...	...	1 minin.

When tepid, add

Distilled water	...	...	2 ozs.
Gold	...	...	4 grs.

The above formula was given by Mr. G. F. Blackmore, in a paper read before West London Society, on March 8th, 1889.—T. S. MAYNE.

3520. **Lens for 5 by 4 Hand Camera.**—See 3513. Taylor detective lens. Send for catalogue with full description. No trouble with the 6 in., the largest made for this work having objects 15 ft. and further in focus.—T. S. MAYNE.

3520. **Lens for 5 by 4 Hand-Camera.**—You seem to want a lens, say, $\frac{1}{4}$ in. focus that will cover a 5 by 4 plate sharply, with a full aperture of $f/8$. Such a lens made of flint and crown would be impossible, but by the introduction of the new Jena glass it is *no fait accompli*. The only lens I know of that will do this is Voigtlander's wide-angle Baryscope,

price £3 19s., to be had at Marion's on approval if required.—HOBBS.

3520. **Lens for 5 by 4 Hand-Camera.**—The rapid lens supplied by the Blackfriars Photographic and Sensitising Company, Surrey Row, Blackfriars, will suit your purpose. The focus is $\frac{1}{4}$ ins., and it will work at a fixed focus of 12 ft. This is one of the most rapid lenses made.—MACGREGOR.

3522. **Copying.**—Your question is not sufficiently explicit; the length of exposure will depend on the rapidity of your lens, and on the brand of plates; if you let me know these particulars, then I can give you some idea of length of exposure necessary.—W. J. E.

3522. **Copying.**—It depends on your lens, the photograph, and the light. For a photograph with strong contrasts in bright daylight from $\frac{1}{2}$ to 2 secs., by gaslight the exposure varies from $\frac{1}{4}$ to 5 minutes, according to illuminating power. Will give you any information through the post if you write, enclosing postage.—J. EDWARD (Editors have address).

3522. **Copying.**—This will all come by experience. It is impossible to give the exact exposure. Try a small stop, and five minutes' exposure to start with.—W. A. J. CROKE.

3522. **Copying.**—Place in good diffused light, see that there are no reflections from the surface of the object, stop down, and give full exposure, governed by the light and colour of the object.—E. J. FEILDEN.

3523. **Action of Fire Light.**—Certainly.—E. J. FEILDEN.

3523. **Action of Fire Light.**—Most certainly. You will get your plates very much fogged, especially if they are quick plates.—W. A. J. CROKE.

3525. **Elimination of Hypo.**—All these so-called hypo eliminators are useless. If you want to eliminate hypo, buy one of Wood's circular print and plate washers, which does its work in a most satisfactory manner, as I can vouch for by experience.—J. EDWARD.

3525. **Elimination of Hypo.**—The only satisfactory means is water.—E. J. FEILDEN.

3525. **Elimination of Hypo.**—Not altogether satisfactory.—R. F. JOHNSTON.

EDITORIAL.

NOTE.—Anyone requiring an opinion upon photographic apparatus, plates, etc., must give a number or initial for identification, as in no case will makers' names be inserted in this column.—EDS. AM: PHOT.

LESLIE BAKER.—Your answer to query 2461 should appear in our "Sale and Exchange" column (three words a penny).

CAMERA.—We are afraid there is but little chance of your having the loan of "Monthly Competition" prints, they are booked for months. It was quite impossible to reproduce all the photographs in "Home Portraiture," those most suitable were selected.

S. WOOLLEY.—We should advise you to buy No. 4. This lens is fitted with Iris diaphragm, and is a most perfect instrument.

C. H. CHASE.—(1) At the price certainly, and thoroughly reliable. (2) We should advise the a shutter.

BERTRAM THOS. ORD.—You will have difficulty in securing a copy, and had better advertise for a copy in our "Sale and Exchange" columns.

CONDENSER.—We do not think it at all probable that your idea, so far as we can understand it, and your sketch, will answer. A very good article upon the subject is published in the AMATEUR PHOTOGRAPHER of February 14. You will be quite safe if you follow the instructions given there. In the PHOTOGRAPHIC SOCIETIES' REPORTER several papers have been published describing different forms of enlarging apparatus.

CHAS. WARREN.—We cannot undertake to sell your lantern, but you can send it up to us, and insert an advertisement in "Sale and Exchange" column.

G. B.—We have sent you the address of the competitor whose print contributed to the "Inland Scenery" Competition you admire, and feel sure he will give you every information. The advertisement pages are all numbered with Roman numerals, and do not, therefore, run consecutively with the letterpress. It is, of course, for you to decide whether you bind them in. We may add that it is not general to bind up the advertisement pages of a weekly publication. Certainly the special numbers, if you have them, should be included.

ZEPHYR.—Enlargements are not eligible for entry in the AMATEUR PHOTOGRAPHER Monthly Competitions, unless advertised. All prints must be from the original negative.

H. F. FOY.—(A) We should say beats of one second would be sufficiently quick; you must take care in your machine to have no jar at the end of the beat. You will find the following useful as text books: "Photography for All" (Harrison), "Modern Dry Plate Photography" (Burton), "Science of Photography" (Chapman Jones), "Instructions in Photography" (Abney), "Photographic Chemistry" (Medala), "Experimental Photography" (Leaper).

J. B. H.—As you wish to combine a time and instantaneous shutter, we would advise 1, 3, or 4,

and think you will find 3 answer your purpose best. We have been much pleased with it. 1 is an expensive shutter, but being made entirely of metal there is, when used for marine work, the risk of oxidation, or else it is without doubt a very excellent shutter.

AMATEUR.—If you want to exchange photographs, you must advertise; the Queries and Answers columns are not for that purpose.

E. N. PRICE (Malta).—We should advise you to obtain a copy of "The Book of the Lantern," sold by our publishers.

J. C. DAWSON.—Yes, we are now aware of the meaning of the "notice;" such catches are likely to prove very disappointing to both receiver and sender.

JOHN J. VINCENT.—We are afraid that we cannot give a "Beginners' Column," but our Query column is open for the very simplest question, or we will be pleased to answer questions in this column. You had better buy either one of the first two, or else the last one recommend to "H. F. Foy" in this column.

W. B. PEARCE.—Many thanks; we shall send a "Special Commissioner" to see the apparatus.

C. W.—We should advise the "second plan," and the use for your purpose of an R. R. lens, but you will, of course, have some difficulty in focussing. (C) A Magazine camera would, perhaps, be preferable. We should advise R or G. Cannot well describe the "Euryscope" in this column. The camera I is, we understand, a very fair instrument, but we have no knowledge of the lens. Write us again if these replies are not sufficiently full. With a hand camera it is impossible to do as many varieties of work as with camera on tripod.

W. J. RIDD.—We can recommend both A and B lenses, and also A and B cameras; you had better decide to have lens and camera, in this case, from the same firm. The enlarging camera you mention is well worth the money.

D. E. GODDARD.—Please let us know what information you require, as you will note that there is no longer an associate editor.

REUBEN COCHRANE.—Pleased to hear that you have been a subscriber so long; kindly hand the copy sent you to some friend. We shall be pleased to see your work, and if you are persevering and painstaking you may succeed in securing an AMATEUR PHOTOGRAPHER medal.

HAMISH.—Before experimenting with various printing processes, it would be well for you to set yourself to make a perfect negative. If you follow carefully the instructions given by Mr. Wall in the "Dictionary of Photography," you will be able to secure the colours named by him. The prints you send us are very unsatisfactory. We should say your negatives are very thin, particularly the portrait in that print; the face is good, but the dress has no detail whatever. The children's feet and legs are out of focus. You are working with a good lens, but must be more careful in focussing. Send us silver prints, or better still the negatives, and we may be able to further help you. The book "Platinum Toning," by Lyonel Clark, can be had of our publishers, price 1s., or 1s. 3d. in cloth.

CYRIL R. LUNN.—The photograph hardly bears out the title; we have sent your letter on to the artist (?). Adverse criticism is good for every one; it is possible he may write you.

W. T. BROWNE.—Secretary's address, Mr. S. W. Gardner, 7, Barry Road, East Dulwich, S.E.; this you could have found in the PHOTOGRAPHIC SOCIETIES' REPORTER. With the camera you name you could certainly obtain negatives that would make good lantern slides. Very glad to hear that you intend "going in" for lantern-slide making. We cannot do as you wish, except the slides are to be used for exhibition purposes. Send us some of your own slides, and we will give an opinion upon them with pleasure. We shall see you, perhaps, at the Crystal Palace. Our shows are on the afternoon of the 14th and evening of the 15th. We do not advise the camera named in your P.S. for taking negatives for lantern slides.

CONSTANT READER.—You will be quite safe in buying either No. 2, 4, or 5. No. 2 is the cheapest, and with an R. R. lens does almost any work you please. No. 5 is very handy, and although we have not had an opportunity of using it, know that work of a first-class character can be turned out. It is a very handy and convenient instrument.

ANDREW PRINGLE.—No more than you deserved. W. K. BURTON.—Your article is amusing and instructive; the photographs shall be reproduced.

NEBO.—The Isle of Wight is full of interesting work for the amateur photographer, especially from Shanklin to Blackgang; afraid we cannot advise as to cheap hotels, but insert your letter in our Query columns. We are advising you by post as to "Dark-Rooms."

JOHN H. HODGES.—Will take care to keep your name before us.

CYRIL R. LUNN.—Mr. Austin says, in reply to your letter, which we sent to him, "The Professor is quite right." There does not seem any necessity to publish your letter.

JOHN E. AUSTIN.—With reference to "Prize Tour Competition," you will have heard from us. You did not comply with the conditions, so we were reluctantly compelled to return the photographs entered by you.

H. P. ROBINSON.—MS. to hand, also print, "He never Told his Love," for QUARTERLY. We should like to reproduce the group very much.

B.—We can recommend "Photo-Micrography," by A. Cowly Malley (Lewis).

LOLA.—The second you name we can thoroughly recommend. It will answer all your requirements.

H. B. MORRIS.—We cannot advise you, as we have never used the lens, and without seeing it should be unable to put a value upon it.

WEST INDIA.—You will find No. 1 camera a reliable apparatus, and we should advise No. 1 lens. We are much pleased with No. 2 shutter, and think you can safely purchase. As you are proceeding to Jamaica, we should advise you not to risk purchasing the AMATEUR PHOTOGRAPHER out there, but let our publishers send it to you direct.

J. R. M.—1. We only know that the maker states it as a fact; the lens we have no experience of. 2. We consider this hand camera the cheapest in the market. The shutter is very simple, and can be worked with or without a spring. There may be better cameras exhibited at the Crystal Palace; perhaps you had better wait and see.

ZINKENITE.—The few cameras we have seen made by the firm have been well made, and the price named by you is certainly reasonable.

TYRO.—We should advise the use of No. 2 plate. The γ lens is certainly superior, and is worth the difference in price.

EDWIN SMITH.—Many thanks for your letter and good wishes, so admirably expressed.

WM. FREV.—We are now arranging to have reprints of any papers read before societies, which appear in the PHOTOGRAPHIC SOCIETIES' REPORTER, and shall be pleased to hear from you.

H. E. PERKINS.—You will be quite safe in buying No. 2 lens; it will do all that you are likely to require, and is a very beautiful and correct instrument. Afraid we hardly merit all the good things you say of us.

W. B. PEARCE.—Very silly of us. Thank you.

THOS. MAYNE.—Stereo slides. No doubt it can be arranged; will write you. Good of you to send us such a batch of answers. Glad to find that you think the "Half-crown Prize Pictures splendid!" Your suggestion is a good one, but oh! the cost. Still, we may do it. Will write soon upon general matters.

W. L. GROVES.—Your strictures upon the Index are, we fear, too well deserved, and the suggestions for improvement shall have our best attention. We hope we shall reap the reward that, as you say, "always attends courteousness, energy, and enlightenment."

FREDERIC L. WORSLEY.—The dates advertised are the last dates upon which prints can be received in each "Monthly Competition"; for instance, "Landscape with Figure," last date, March 14th.

ERNEST WINN.—We cannot advise A. B is a most ingenious apparatus, and has many advantages, but whether in practice it is reliable we are not in a position to say. C is a thoroughly reliable, well-tried, and useful hand-camera; we do not think you could do better. We should advise lens A. One of our staff is writing you by next mail.

EDGAR B. HOWARD.—A very ingenious shutter, but there is certainly a jar; it would be well to let the drop fall upon a rubber buffer or small spring, care being taken that it is not strong enough to rebound. We should think it possible that some firm of photographic dealers might be willing to take it up. Send us some specimens, we are rather sceptical about the aperture. Will you call?

WILLIAM BARRETT.—Very busy with Crystal Palace Exhibition, but shall hope to be free after next week; will write you.

JAMES A. JACOB.—Will give you a line next week.

W. L. H.—Certainly it is permanent; see Wall's "Dictionary of Photography."

FRANK APPLEBY.—We usually engrave our medals, and it would be impossible to send them in time.

J. A. HAMILTON.—The AMATEUR PHOTOGRAPHER silver and bronze medals shall be struck in order that you can, as you suggest, exhibit them in Belfast.

TOM HADLEY.—We should advise B camera. EDWIN JURY.—There is a very excellent photograph club in your district, the Brixton and Clapham Camera Club; President, Mr. A. R. Dresser. Particulars of address, etc., will be found in the PHOTOGRAPHIC SOCIETIES' REPORTER, which is published at 1, Creed Lane, E.C.

EARNEST.—Quite impossible to help you without seeing the lenses.

A. A. LLOYD.—"Platinum Toning," by Mr. Lionel Clark, can now be had of the publishers, 1, Creed Lane, Ludgate Hill; other books of the AMATEUR PHOTOGRAPHER'S Library will be ready very shortly.

LUDER.—We should advise Z, it is well made, and will meet all your requirements.

R. E.—A very capital subject and print; your shadows are rather deep, but you have made a charming picture. Should suppose you could get a view with both sides of the picture brilliantly lighted? May we retain the print?

JONATHAN FALLOWFIELD.—We will get you those prints if we can. All right, will send the camera

over. Glad to hear that "In a week or ten days you hope to make a specially interesting announcement." Everyone is asking if you will have anything new "on show" at the Crystal Palace Photographic Exhibition.

JOHN WALKER.—We must write you; should advise your "keeping dark;" quite think there's something in your proposed apparatus.

C. EMANUEL.—Received; will answer next week.

W. B. M.—ERNEST H. CARTWRIGHT.—Will publish your letters next week.

Prize Tour Competition.

In the above competition we have received the following entries:—

W. McLean Forbes	...	New South Wales
Miss Griffith	...	Littlethorpe
W. W. Whittard	...	Cheltenham
R. J. Shields	...	Mexboro
W. L. Howe	...	Beeles
W. B. Windeles	...	Long Ditton
Mrs. Cole	...	Lewes
J. T. Black	...	Corstorphine
F. Anyon	...	Liverpool
A. G. E. Newland	...	Upper Burmah
W. L. Tindal	...	Newton Abbott
Lumley Cator	...	London
Capt. Brotherton	...	Cullercoats
R. Tindal	...	Leighton Buzzard
G. E. Galbraith	...	Stirling
F. G. Smart, M.A.	...	Tunbridge Wells.
W. H. Scott	...	Bradford.
H. Day	...	Tonbridge.
H. Holt	...	Southport.
H. E. Allen	...	Nottingham.
E. T. Zimmer	...	Anerley, S.E.
C. J. Jackson	...	St. Andrews, N.B.
M. C. Livingstone	...	Edinburgh.
J. O. Forster	...	Clapham, S.W.
Paul Lange	...	Liverpool.
S. H. Barton	...	London, W.
Charles Emmanuel, B.A.	...	London, W.
R. Leventhorpe	...	Camera Club
R. H. Blankley	...	Manchester
James Shaw	...	Glasgow
D. R. Clark, M.A.	...	Glasgow
James Young, jun.	...	Bristol
Rev. Wm. Mann, M.A., S.C.L.	...	London, W.
Capt. O. J. Fielden	...	Hughenden
C. S. Cobb, M.A.	...	Liverpool
W. P. Christian	...	Maidstone
*J. C. Austin	...	Doncaster
G. B. Bisat	...	Portsmouth
Surg. D. Wardrop, A.N.S.	...	Portsmouth
T. W. Pilkington	...	Blackburn
R. J. Orrell	...	Budapest, Hungary
Maurice De Dèchy	...	Hackney, E.
John Dace	...	Hampstead, N.W.
A. E. F. Evershed, L.R.C.P.	...	Shrewsbury
Martin J. Harding	...	Malmesbury
Miss C. Miles	...	

* Disqualified; conditions not complied with.

Sale and Exchange.

RULES.—Pence for twelve words or less, and a penny for every additional three words, must be enclosed with each advertisement, together with the name and address of the sender, which must be paid for, and sent to Hazell, Watson, and Viney, Ltd., 1, Creed Lane, Ludgate Hill. Halfpenny stamps preferred. A single figure, or group of figures undivided by letter, space, stop, or two counts as one word; compound words count as two words.

DEPOSITS.

Deposits for goods to be forwarded on approval may be made with our Publishers, who will hold the amounts deposited until they are satisfied that the transaction has been executed to the satisfaction of both parties. Cheques and Post Office Orders should be made payable to Hazell, Watson, and Viney, Ltd. A nominal charge 1s. is made of whether a sale is effected or not.

N.B.—Trade Advertisements cannot, under any circumstances, be inserted in this column. Such advertisements can be inserted elsewhere at the Trade Scale, which may be obtained on application to Parry and Crawford, 1, Creed Lane, Ludgate Hill, London, E.C.

"Amateur Photographer," vols. ii. to ix., bound, including extra numbers, vol. x. unbound, as good as new; price 30s.—Photo, 8, Cobham Street, Gravesend.

"Amateur Photographer," etc.—Last four vols. AMATEUR PHOTOGRAPHER, vol. i. "Photography," 10s. lot, or exchange.—G. Outmore, 99, Barnsbury Road, Islington, N.

Apparatus.—For sale, Dallmeyer's 4D patent lens, 170s.; whole-plate camera, leather bellows, swing-back, one side, 42s.; Cadett's pneumatic lightning shutter, No. 4, 20s.; sliding tripod, height 6 ft. 8 in., brass head, 10s. 6d.—J. Hart, Clifton, Derbyshire.

Optimus R.R., 5 by 4, nearly new, 21s.; walking stick tripod, Shew's make, 15s.—Ustickie, Trenarren, St. Austell, Cornwall.

Rouch's patent camera, half-plate, three double dark-slides, and canvas case to contain the lot, camera has double swing and reversing back, perfect condition; price £4 lowest.—Sydney Miller, 23, Highbury Grove, Islington, London.

Book Camera.—Krugener's patent book camera (from Marion, Soho Square), quite new, and in perfect condition, 24 plate-holders, and all accessories, chemicals, etc.; cost £4 4s.; will take £2 2s.—L. G. W., 3, Eaton Terrace, S.W.

Cameras.—Half-plate long-extension camera, with all the latest improvements, new last season, three double dark-slides, also black leather case made for same.—W. H. Parton, jun., Kingswood House, Hollywood, near Birmingham.

Lancaster's Instantograph quarter-plate, perfect condition, complete, waterproof canvas bag; £0s.; approval; deposit.—Graham, Earnock, Harrow.

Lantern slide oblong camera, always in focus; cost 14s. 6d.; will take 9s. 6d.—G. Fitch, Clovelly, Mayfield Road, Moseley, Birmingham.

Camera, etc.—Half-plate camera (by Meagher), three double backs, solid leather case, tripod, etc.; cost £9; price £6.—W. Orme, Studio, St. Petersburg Place, Bayswater.

Camera and Lens.—Quarter set International camera, Optimus R.R. lens.—Apply, Drinkwater, 44 Malvern Hill Road, Birmingham.

Half-plate bellows camera and cabinet lens (by Mason, Glasgow); £3 10s., or exchange for whole-plate camera and slides for field or studio.—J. Herbert, Shady Lane, Driffield.

Camera and Tripod.—Quarter extension camera, all movements, and four mahogany double slides, 22s. 6d., guaranteed perfect and nearly new; mahogany sliding tripod, strong, very rigid, 6s.; no approval; seen after 7.—G. Outmore, 99, Barnsbury Road, Islington, N.

Concertina.—English concertina, perfect condition, cost six guineas; exchange for half-plate rapid rectilinear lens, or photographic sundries; letters only.—James Taylor, 3, Alexandra Road, South Hampstead, London.

Condensers.—6 in. condensers, perfect condition; 27s. 6d.; cheap.—Ploss, 309, Liverpool Road, Islington.

Dark-Slides.—Six Taylor's metal slides, quarter-plate; take 11s.—Pattison, 6, Burt Terrace, Gateshead.

Lanterns.—Hughes' four guinea lantern, new, for £3.—Shaw, 90, Beverley Street, Belfast.

Exchange good magic lantern and 30 slides for quarter-plate camera.—Geare, Hennessey's Road, Waterford.

Handsome single three-wick oil lantern, 4 in. condensers, nickel-plated fronts, show 10 ft. picture, nearly new; price 50s.—C. H. Myers, Low Moor, near Bradford.

Lenses.—Optimus Buryoscope lens, 7 by 5, new; £3 15s.—W. Orme, Studio, St. Petersburg Place, Bayswater.

London Stereoscopic Company's £8 8s. half-plate portrait lens, new; £5.—B., 9, Kimberley Road, Stockwell, London.

Capital half-plate rapid rectilinear; approval. What offers over 20s.—Snell, 2, Canning Street, Nottingham.

Half-plate R.R. lens, by Marion; 30s.; cost double; approval; deposit.—Logan, St. Oswald's House, Tenby.

Ross' 9 by 7 rapid symmetrical, new condition, £5 10s.; 7 by 5 Optimus R.R. lens, 35s.; large Ross' view lens, 4 in. diameter, conical mount and stops, 30s.; Dallmeyer's 10 by 8 triplet, 75s. Wanted, Ross' portable symmetrical lenses.—Collins, Chalfont, Bucks.

Ross' cabinet lens, cost £17 10s., price £7, in good condition; Dallmeyer's 2B, in good condition, £7 10s.; 1B, nearly new, £3 5s., or exchange.—Pedder, Gold Hill, Gerrard's Cross, Bucks.

Optimus 7 by 5 portable symmetrical lens; new, cost 52s. 6d.; cash offers.—Hawkins, Waverley Estate, Farnham, Surrey.

Reynolds and Branson's half-plate R.R. lens, new; 35s. Wanted, Eastman's quarter-plate roll-holder; approval; deposit.—C. Naylor, Batley.

Rapid rectilinear lens, $\frac{7}{4}$ by $\frac{4}{3}$, by Fallowfield price £2.—Hugh Brown, Lyncroft, Baintree.

R.R. lens (by Wray), back focus 8 in., equivalent focus $8\frac{1}{2}$ in., full aperture $f/8$; U.S. No. 4, to cover $6\frac{1}{2}$ by 5, only used a few times, also Kershaw shutter to fit the above, new; £3.—E., Heath, Leighton Buzzard.

Half-plate rapid view lens, Taylor Hobson's; exchange good quarter rectilinear.—61, Gayhurst Road, Hackney.

Half rapid rectilinear lens, 25s.; quarter ditto, 18s. 6d.; fine instruments.—17, Sedan Street, Walworth.

Beck's 10 by 8 rapid rectilinear, Iris diaphragm, new, in case, £5 10s.; Dallmeyer's wide-angle landscape, 10 in. focus, £3 10s.; exchange Ross' portable symmetrical.—Dr. Wardrop, 3, Shaftesbury Road, Southsea.

Lens and Shutter.—Quarter R.R. lens and pneumatic shutter; 21s.; cost 34s.; make good detective lens.—G. Outmore, 99, Barnsbury Road, Islington, N.

Lens and Slide.—Optimus 6½ by 4½ ordinary portrait lens, condition as new, 38s. 6d.; whole-plate new mahogany slide, 10 by 7½ by 1½, 10s.—G. Adams, 121, Catherine Street, Doncaster.

Lens, etc.—Lancaster's quarter combination Rectigraph lens, 20s.; three double mahogany dark-slides, for quarter Instantograph, 10s.; Vever's burnisher, 8s. 6d.—C. 41, St. Stephen's Avenue, Shepherd's Bush, W.

Lens and Rest.—Strong head and body rest, nearly new; cost 30s.; what offers, cash, or half-plate R.R.—Waring, 90, Pall Mall, Chorley.

Lens, Stops, etc.—Will exchange half-plate Underwood's Instanto R.R. lens, stops, dark slide, dishes, complete, for Rouch's Eureka detective quarter-plate, or other good detective.—Best, 2, Wincot Street, Kennington Road, S.E.

Lens, Bellows Camera.—Lancaster's half-plate rapid rectigraph, cost £3; price 45s.; as good as new, Also half-plate bellows camera, all movements; 30s.—Pollock, Telegraphs, Belfast.

Photographs.—Colonial views, five separate books, with one hundred different views of towns in Queensland, would make a grand lot to take lantern slides off; 25s.—R. Shephard, 115, Turton Road, near Bolton, Lancashire.

Photographic Apparatus.—Quarter-plate 1889 Instantograph lens, shutter, three double dark slides, tripod, dishes, measures, printing frames, tripod case, camera case, weights, scales, etc., bargain; £2 10s.—F. Jackson, 33, Ashton Old Road, Ardwick, Manchester.

Whole-plate Billcliffe camera, three slides, stand, waterproof cases; £9, nearly new. Dallmeyer's rapid rectilinear whole-plate lens; 5 guineas. Kershaw's shutter for same; 15s. The lot £14. All in perfect condition; approval, deposit.—Walmsley, Cleveleys, Bolton.

Rouch's half-plate reversible screen, three double backs, two quarter-plate carriers, Ross's 8 by 5 R.S. lens, shutter, tripod, and leather case, Rouch's portrait lens to fit above camera, complete; £15 cash; seen by appointment.—AMATEUR PHOTOGRAPHER Office, 1, Creed Lane, Ludgate Hill, E.C.

Phot. Soc. Reporter. Nos. 1 to 11; also AMATEUR PHOTOGRAPHER, Nos. 75 to 90, and 170 to 195; Nos. 171, 173, 174, and 175 missing. What offers in cash?—Prichard, Rue Cultivateurs, Pau, France.

Sets.—Rouch's pocket camera, made of teak, two slides, lens, stand, and leather case; 35s., print sent.—Alfred Watkins, Hereford.

High-class quarter-plate camera, R.R. and W.A.R. lenses, tripod, also Optimus 12 by 10 R.R. lens, covers 15 by 12 plate.—W. Charles, Duns, N.B.

Instantograph quarter-plate, 1889, all latest movements, and in very finest order throughout fitted, Instantograph lens, Iris stops, instantaneous shutter, slide, and stand; lowest, 37s. 6d., approval.—Green, 119, Willmot Street, Three Colt Lane, Cambridge Road, E.

Quarter-plate camera, tripod, double slide, extra and rapid landscape lens, Waterhouse stops; 30s., good as new, bargain.—Wormell, Norfolk County School, Elmham.

Meagher's whole-plate studio camera, double back, good condition, cabinet portrait lens, takes whole-plate; belonged to photographer lately deceased; £4 15s., approval, deposit.—Storey, Dentist, Alston, Cumberland.

Camera, quarter-plate, swing back, rising front, three double slides, three-fold 5 ft. stand, Lancaster's 20s. lens, Iris diaphragm, Tylar's shutter, lamp, three dishes, three printing frames, chemicals for one gallon developer, two gallons toning bath, other chemicals; cost 80s., for 50s., approval.—B., Post-office, Seaford, Sussex.

Camera, 10 by 8, three backs, lens, copying front, waterproof case; £8.—Lang, 263, Upper Street, Islington.

Excellent London made whole-plate camera, three double backs, Eastman's roll-holder, Wray's single lens, Beck's W.A.R. lens, etc., all in first-class order; price £21; good half plate set taken in part payment. No approval; could be seen by appointment in the City.—H. F., care of Housekeeper, 6, New Broad Street, London, E.C.

5 by 4 square mahogany camera, with leather bellows body, lens by Scovill, New York, folding tripod, one double slide; 25s., or exchange to value. Approval, deposit.—Henry Ridley, 14, St. Thomas's Road, Hastings.

Marion's half-plate camera, long extension. One mahogany, three metal slides; 75s. Marion's rapid rectilinear lens, splendid definition, landscape or portraits, with drop shutter; 30s. Watson's 30s. cyclists' tripod, half or whole-plate; 18s. Black leather case for camera, lens, and slides; 8s. 6d.; take £5 10s. the set. Call after seven, Edwards, 86, Chesterton Road, North Kensington, W.

Half-plate Sands and Hunter's camera, three lenses, namely, Ross R.R., Wray's landscape, Wray's wide angle, fitting one flange, six double slides, shutters, tripod, leather cases, etc.; also Watson's stereo camera, pair Wray's lenses, shutter, six doubleslides, leather case, tripod, etc.—W. Norwood, Snow Hill View, Wakefield.

Ross's best 10 by 8 camera, 3 backs every movement; sell, £8 15s.; list, £13 13s. Ross' 10 by 8 rapid symmetrical; £5 15s.; the whole nearly new.—1, Dunkeld Villas, Plymouth.

Lancaster's quarter-plate special camera, 1 double back and changing box, and double back for 1 plates, landscape lens, solid leather case, and tripod stand; £3 10s. Whole-plate R.R. lens with Waterhouse stops, excellent definition; £1 15s.—Dollery, 57, Charing Cross, S.W.

Lancaster's quarter-plate Meritoire, 4 double backs and tripod, complete, good condition; £1 1s.—Louis Casson, Pudsey, Leeds.

Stereoscopic Camera.—Stereoscopic bellows camera with one single slide and pair of accurately matched lenses, also capital changing bag; the lot £2, cash; a bargain; approval by arrangement.—Ellam Yarn.

Tricycle.—Salvo tricycle, Starley and Brothers Coventry, will carry photographing apparatus £4 10s.—Wratisslane, Braunston, Rugby.

Cripper tricycle, balls all over, handle bar and

parts fitted, handsome and sound machine, to be sold at a low price.—Apply at 89, Addison Road, W.

Tripod Stand.—Rigid whole-plate tripod stand, cheap; 7s. 6d.—Ploss, 303, Liverpool Road, Islington.

Violin and Bow.—Violin and bow in exchange for good background, or sell; 8s. 6d.; new.—Address with Editor.

WANTED.

Cameras.—Quarter-plate detective camera, one without slides preferred; also camera and slide, 12 by 10, or 10 by 8.—W., 19, Streatley Road, Brondesbury, N.W.

Lancaster's 1889 half-plate Instantograph or International, preferably with Tylar's metal slides.—L. Barker, Trinity College, Cambridge.

Camera and Lens.—Half-plate camera, with double backs, by good maker; also lens.—W. T. Shaw, 1, Gordon Street, Clonmel.

Dark Slides.—Double dark slides for half-plate Instantograph.—S. Graves, 11, Lansdowne Place, Blackheath Hill.

Developing Dishes.—Whole-plate developing dishes; cheap, cash, or part exchange good violin.—Address Miss G. Pearce, Devon and Cornwall Road, St. Austell.

Enlarging Camera.—Camera, any old one, suitable for enlarging purposes.—Raven, Halifax.

Lenses.—Whole-plate view lens. Ditto wide-angle portable symmetrical, by good makers; for cash, or would exchange Dallmeyer's 7½ by 4½ view lens, and No. 4 portable symmetrical, Talbot and Eamer, an exact copy of Ross', excellent lens; approval.—Q. J. Brownrigg, Ballymena, co. Antrim.

A 5 by 4 Optimus Euryscope.—Apply, stating lowest price, to E. G. Davis, 23, Walker Street, Burdett Road, Limehouse, London, E.

Ross' rapid symmetrical, 6 by 5; cheap.—Snell, 2, Canning Street, Nottingham.

Ross' 7-inch portable symmetrical and Dallmeyer's whole-plate No. 1A wide-angle rectilinear.—No. 241, AMATEUR PHOTOGRAPHER OFFICES, 1, Creed Lane, E.C.

Half or whole-plate portrait lens part exchange quarter set and half-view lens.—A. Bates, 1A, Lower Hester Street, Northampton.

Lens, etc.—Wanted half-plate wide-angle rectilinear lens, by any good maker, must be perfect; also 3 mahogany double slides to fit Instantograph, size of slide 7½ by 6; must be cheap.—B. Roberts, 12, Thornhill Terrace, Wortley, Leeds.

Good half-plate camera, lens, slides, etc., state particulars; must be cheap.—Borrowdale Yews, 5, Nassington Road, Hampstead.

Set.—Good quarter set; also hand camera; for cash.—Ed. Mason, Askrigg, Bedale.

5 by 4 or quarter set (Hares or Watson's light patterns), state lowest prices and particulars.—Usticke, Trenarren, St. Austell, Cornwall.

Tripod.—Light compact quarter stand for cycling work.—114, Coltman Street, Hull.

Photographs.—Photographs of Hughenden Church and Lord Beaconsfield's Tomb; please submit to Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, Ludgate Hill, London, E.C.

Now Ready, Price 6d.

The Photographic Societies' Reporter

FOR FEBRUARY 28th, 1890.

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A Summer Cruise on British Coasts.

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Eastman's New Transparent Rollable Film.

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The Oxy-Hydrogen Microscope.

Photography as applied to Letterpress Printing.

My Experience of Photography.

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London: HAZELL, WATSON, & VINEY, Ltd., 1, Creed Lane, Ludgate Hill, E.C.

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Subscriptions must be prepaid.

UNITED KINGDOM	Six Months, 5s. 6d.....	Twelve Months, 10s. 10d.
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NOTICES AS TO ADDRESS.

PUBLISHING DEPARTMENT.—All letters containing Subscriptions, Orders, Remittances, SALE AND EXCHANGE Advertisements, or other business matters for the *Amateur Photographer* are to be addressed to the Publishers, HAZELL, WATSON, AND VINEY, LD., 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

NOTE.—SALE AND EXCHANGE Advertisements, at the charge of Three Words for One Penny, can be received as late as WEDNESDAY MORNING.

ADVERTISEMENT DEPARTMENT.—All communications respecting TRADE Advertisements in the *Amateur Photographer* are to be addressed to PARRY AND CRAWFORD, 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

NOTE.—Trade Advertisements are received up to Tuesday morning.

EDITORIAL DEPARTMENT.—All Literary Contributions, Queries and Answers, Photographs for Competition or Criticism, Books or Apparatus for Notice or Review are to be addressed to the Editor, *Amateur Photographer*, 1, Creed Lane, Ludgate Hill, London, E.C.

NOTE.—To ensure insertion all Communications should reach the Editors on Tuesday.

CORRESPONDENCE SECTION.—Anyone wishing to communicate with Contributors can do so by forwarding such Communication in stamped envelope under cover to the Editor, *Amateur Photographer*, 1, Creed Lane, Ludgate Hill, London, E.C.

THE "AMATEUR PHOTOGRAPHER" FIRST LADIES' PHOTOGRAPHIC COMPETITION.

PRIZES.

First Prize	Gold Medal.
Second "	Silver Medal.
Third "	Bronze Medal.

(These Medals, of the smaller series, will be appropriately mounted as Brooches).

SUBJECTS.

Landscape or Seascape—Landscape with Figure—Genre or Figure Study.

CONDITIONS.

1. Not less than six or more than twelve prints are to be entered for competition.
2. All prints must be mounted, and the title (only) must be legibly written on the front of the mount.
3. The work must be entirely the work of a lady, who must be a bona fide amateur photographer, and must have done all the work, except mounting, herself.
4. The negative of the prize photographs must be at the service of the proprietors of the *AMATEUR PHOTOGRAPHER*.
5. Photographs can be printed by any process, but must not be printed on opal, or mounted in optical contact on glass.
6. All photographs must be sent in on or before the 31st of May.
7. No prints will be eligible that have been entered for any previous competition.
8. Entry forms will be forwarded on receipt of stamped addressed envelope.

NOTE.—The adjudication will be made by lady artists and lady photographers. It is hoped that it will be possible to make arrangements to exhibit the photographs at a Conversazione to be held in the offices, 1, Creed Lane, E.C., during the month of June.

Further particulars on application to the Editor, "*Amateur Photographer*," 1, Creed Lane, Ludgate Hill, London, E.C.

THE FORTH BRIDGE.

In view of the interest taken by all engineers, students, and others in the Forth Bridge as a triumph of engineering skill, the Proprietors of the *AMATEUR PHOTOGRAPHER* have pleasure in offering the following Prizes for the Best and Second Best Set of Four Photographs:—

First Prize	Silver Medal and £1 1s. 0d.
Second Prize	Bronze Medal and 10s. 6d.

Photographs must be sent in on or before Monday, the 10th of March, this date permitting of photographs of the Opening Ceremony, which was performed by H. R. H. the Prince of Wales on the 4th of March.

The Proprietors will require the use of the negatives of the prize photographs. If any competitors are willing to leave their prints in the hands of the Editor of the *AMATEUR PHOTOGRAPHER*, they will have pleasure in circulating them amongst the photographic societies.

All Competitions to be addressed:—'Forth Bridge Competition.' The Editor, *Amateur Photographer*, 1, Creed Lane, Ludgate Hill, London, E.C.

"AMATEUR PHOTOGRAPHER" MONTHLY PHOTOGRAPHIC COMPETITIONS.

THE Proprietors of the *AMATEUR PHOTOGRAPHER* will offer, Monthly, two prizes, consisting of a

SILVER AND A BRONZE MEDAL (WITH RIBBON AND CLASP),

for the best and second-best photographs sent in to each of their Monthly Competitions. The subject of the Competitions will be as follows:—

LANDSCAPE OR SEASCAPE	June 14.
LANDSCAPE WITH FIGURE	Mar. 14 ... July 14.
GENRE OR FIGURE STUDY	April 14 ... Aug. 14.
INSTANTANEOUS PHOTOGRAPHS, ANIMALS, ETC.	May 14 ... Sept. 14.

All photographs for any of the above competitions must be received by the FOURTEENTH DAY OF THE FOLLOWING MONTH,

and as received will be acknowledged in the columns of the *AMATEUR PHOTOGRAPHER*.

Entry forms on receipt of stamped addressed envelope.

"AMATEUR PHOTOGRAPHER" MONTHLY COMPETITIVE PAPERS, 1890.

THE following Prizes are offered for competition every month:—

Three Prizes of £1 1 0 each.

Three Prizes of 0 10 6 each.

And Three Certificates.

The Papers must not exceed 1,000 words; and those which are awarded Prizes will be published in the *AMATEUR PHOTOGRAPHER*; others will be selected, and will be arranged for publication in the

"AMATEUR PHOTOGRAPHER'S ANNUAL,"

Contributions are to be upon the subjects as list given below; and in order to make the matter more interesting, it is requested that each competitor shall give his personal experiences. It is intended that each subject shall be written up by a specialist for the ANNUAL, and the latest information given. All MSS. must be received not later than the

28TH OF EACH MONTH.

Subjects.

28th March	Optics.
28th April	Action of Light.
28th May	Exposure.
28th June	Plates and Films: their Development and After Treatment.

All MSS. to be addressed to the Editor, "*Amateur Photographer*," 1, Creed Lane, Ludgate Hill, London, E.C.

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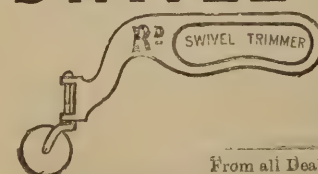
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An Invaluable Tool for cutting Circles and Round Corners. Price 2/9 each. Also the Well-known STRAIGHT CUTTING TRIMMERS Nicked, 2/9; Bronzed, 2/.



From all Dealers; or the Proprietors, "AMERICAN BRAND" MFG. CO., 28, NORWOOD ROAD, LONDON, S.E.,



Vol. XI. No. 284.]

FRIDAY, MARCH 14, 1890.

[PRICE TWOPENCE.]

✻ OUR VIEWS. ✻

"To hold as 'twere the mirror up to nature."—*Shakespeare.*

TO-DAY (Friday), at three o'clock, a selection of slides from those sent in to the AMATEUR PHOTOGRAPHER Lantern Slide Competition will be shown in the Opera Theatre, at the Crystal Palace. All competitors in that competition, and also in the "Prize Tour Competition," will receive special invitations, and we trust they will attend. "Afternoon tea" will be served at *five o'clock*; particulars as to position of room, etc., may be obtained on application to the attendants at the AMATEUR PHOTOGRAPHER stall. Through the courtesy of the Managers, the show will be repeated at seven o'clock on Saturday evening.

A very large number of photographs are exhibited at the Exhibition, and those contributed to the AMATEUR PHOTOGRAPHER "Prize Tour Competition" make a brave show, occupying no less than *nine* large screens in the north nave. In the alcoves some very excellent work is shown, but we must reserve any critical comments upon it until our next issue.

We understand from Mr. W. Brooks, who has the sole management of the Lantern Exhibition, that the lenses that were made for him to his order by Messrs. Taylor, Taylor, and Hobson, of Leicester, work splendidly, and are the finest lenses he has ever worked with. They are symmetrical in form, and therefore all the marginal lines are perfectly straight, *i.e.*, providing they are so in the slide. Mr. Brooks himself also informs us that he has made a great improvement in the light by a certain addition to the mixed jet, and is confident that he will be able to do full justice to the AMATEUR PHOTOGRAPHER Competition slides to be exhibited to-day and to-morrow.

* * * *

WE are very pleased to notice that the Lantern Society is in a fair way of being started, and an adjourned meeting will be held on the 19th inst., in the Regent Street Saloon of the St. James's Hall, to consider rules, etc.

* * * *

WE have received the full programme of the fourth annual Camera Club Conference, which will open under the presidency of Capt. W. de W. Abney, C.B., R.E.,

D.C.L., F.R.S., etc., on the evening of Wednesday next March 19th, with a smoking concert in the Club rooms.

On Thursday, papers will be read in the theatre of the Society of Arts, as follows:—

1. Presidential Address (Capt. W. de W. Abney, C.B., D.C.L., R.E., F.R.S.).
2. "The Art of Drawing and Photography" (Mr. A. M. Rossi).
3. "Limitations in the Treatment of Subjects by Focus" (Mr. T. R. Dallmeyer).
4. "The Influence of Stops on Exposure" (Mr. Lyonel Clark).
5. "Eclipse Photography" (Mr. A. A. Common, F.R.S.).
6. "Collotype Practically Illustrated" (Mr. W. T. Wilkinson).

There will be an exhibition of lantern slides in the theatre at 8 p.m. The exhibition will include the prize slides of the recent AMATEUR PHOTOGRAPHER competition.

On Friday the reading of papers will be continued in the following order:—

1. Official Communication upon the Subject of Regulations for Photographic Exhibitions.
2. "Photography by the Light of the Electric Spark" (Lord Rayleigh).
3. "A Photographic Untruth" (Captain Abney).
4. "The Latent Image" (Mr. C. H. Bothamley).
5. "Photogravure Practically Illustrated" (Mr. W. T. Wilkinson).

In the evening the members and friends will dine together at the Frascati Restaurant, in Oxford Street.

During the Conference there will be an exhibition of apparatus at the Society of Arts, and of members' work in the rooms of the Club.

The discussion upon "Regulations for Photographic Exhibitions" is likely, we hope, to be fruitful in bringing about reforms which are certainly needed. It will be remembered that the subject received a considerable amount of attention in the spring of 1888, and we would recommend those intending to enter upon the discussion to study the report of the meeting held on the 19th of April, which is given in the AMATEUR PHOTOGRAPHER, No. 187, May 4th, 1888, and also our editorial comments upon the same. The following are the items set out for discussion on this day week:—

- (1) That exhibition authorities and societies should decline

For Contents, Prize Competitions, Notices, etc., see page 187.

prizes placed at their disposal for the purposes of advertising.

- (2) That some restriction as to number of awards is required. Suggest a basis for a limitation.
- (3) That awards should be all of equal value.
- (4) That if any further division than art and science sections be required, the classification be of the simplest—say, in the art sections: (a) Landscape and landscape with figure, (b) Figure subjects, (c) Portraiture, (d) Architectural.

Other points upon which agreement is desirable are as follows:—

- (1) Selection and constitution of board of judges for art and scientific sections.
- (2) Announcement of judges' names as early as possible, and before entries are due.
- (3) The working the system of champion classes.
- (4) Exhibition in competition of work by a firm in which work several hands have had a share.
- (5) An intimation in regulations that the judges are requested to withhold awards in cases of insufficient merit in a class or classes.

Other points:—

Retouching? One picture, one frame? Diplomas or medals? Separate amateur and professional classes? Hanging Committee?

It is not our intention to give any opinion upon the points proposed to be dealt with, but we feel sure that good must result. The value of awards made at exhibitions must decrease so long as they are so numerous. It is not often that we are in accord with expressions of opinions which are published in our contemporary, *Photography*, but we heartily endorse the opinion expressed by their editorial contributor, "G. D.," who last week denounced the inviting of editors of photographic journals to act as judges at exhibitions. We are at one with him there, pointed though his remarks may be, and from the following quotation it will be seen that we had forestalled him in the editorial notes of the PHOTOGRAPHIC SOCIETIES' REPORTER for February 28th, in which we say—

"We are pleased to notice that the Committee will bring forward, in as complete a manner as possible, the subject of photographic exhibitions and their regulations. The discussion of this subject at the Conference was suggested in the editorial columns of the AMATEUR PHOTOGRAPHER. We hope one result of the discussion will be to relieve editors of photographic publications of the unthankful office of acting as judges at photographic exhibitions; and we are glad to find that at the Crystal Palace no one directly or indirectly connected with any photographic journal will be asked to serve on the bench of judges. In the past it has been almost compulsory, because the promoters of exhibitions were new to the work; but the calls upon the time of certain gentlemen, as well as editors, has become a serious tax—but, outside of that, editors of papers are best left free; they will all, we are sure, gladly advise; but, speaking for ourselves, we think the decision arrived at by the Managers of the Crystal Palace Photographic Exhibition is a very just one."

It is well known that with us the judging has been a labour of love entailing the loss of much time, and attended with very great inconvenience, but we have done it in the hope of helping others. We have had the honour of assisting in the adjudication of photographs contributed to exhibitions by every known worker in photography, professional and amateur, and have never had our judgment questioned except by the editing staff of a journal who do not recognise the difference between a colotype and a Woodbury print. In our own competitions we have invariably had the assistance of artists, and in all cases where possible we have advised their being included on the bench of judges. As far back as November 21st, 1884, we find an artist, Mr. T. Crane, acted for us as judge, in conjunction with

Mr. Walter Besant, and in November, 1885, we were honoured with the valuable services of Sir James D. Linton, and so we could, time after time, refer to the artists who have assisted us in judging photographs contributed to our competitions. There is no amateur photographer of note who has not been awarded the AMATEUR PHOTOGRAPHER medal, and we never remember to have received a protest except once upon a technical reading of our conditions with regard to one of the Prize Tour Competitions. It may be interesting at the present time to draw attention to an article from the pen of Dr. Emerson, which appeared in the AMATEUR PHOTOGRAPHER for October 23rd, 1885, entitled, "An Ideal Photographic Exhibition." We shall wait with much interest to hear what will be said upon the great question, and we shall hope to be allowed the privilege of "making a few remarks." But we do hope and trust the discussion will not drift into a tirade of abuse, either for or against different schools of art and thought.

* * * *

THE Forth Bridge Competition, owing principally to the very unfavourable weather, was not largely contributed to. We have, however, much pleasure in awarding the first prize, silver medal and one guinea, to Mr. Alex. Pitkethly, Leith, for four very good views. His pictures were accompanied by several detective shots, which clearly show that there was "a bit shower" on at the time, and that it was "verra soft."

* * * *

WE do not particularly concern ourselves about the finances of photographers, makers of photographic apparatus, dealers or others, but we understand that the London Stereoscopic Company are arranging for a very large extension to their already extensive premises in Regent Street. For some reason the shares in their Company are in the market and can be bought to pay 10 per cent. We can but think that they are worth the market price, especially as Messrs. Nottage and Kennard retain their holding in the concern, some £30,000. There is every reason to believe that with the opening of the new premises, a very large increase in business will result, and at present prices we certainly think shares are worth buying.

* * * *

A CORRESPONDENT is very anxious to know in which part of England the best photographic printing can be done. We have advised him the north side of London, but he is anxious to know whether any counties are better adapted climatically for printing than others. We shall be interested to have replies.

* * * *

SUN AND COMPANY, one of the best clubs for the circulation and criticism of photographs, has determined to increase its numbers from thirty to forty members. Mr. Martin J. Harding, College Hill, Shrewsbury, would be pleased to hear from ladies or gentlemen who may wish to join. All applicants must be amateur photographers, and must forward specimen of work, accompanied by stamped envelope for reply. We understand that more than 1,000 photographs, all members' work, have been contributed to the portfolio. The club is well worthy of support.

THE photographs sent in to our last monthly competition "Landscape or Seascape," cannot be said to be up to the same standard of excellence as several of the other—attributable, no doubt, in some degree, to the weather which prevailed last month. The prizes have been awarded as follows :—

First Prize (Silver Medal).

C. COURT COLE Oxford.

The title of the picture, "Is Father Coming?" is well carried out, the mother and children standing at the gate anxiously on the look-out. The storm gathering is well depicted, and the picture as a whole is a very vigorous one. The other prize, a Bronze Medal, is awarded for "Farndon on the Dee," by Mr. J. K. Taylor (Marple). Of other photographs contributed, we select the following as being worthy of special commendation :—

"Glengariff, Co. Kerry," Edward J. Jackson, St. Andrew's, N.B.
 "Eynsford, Kent," A. R. Dresser, Bexley, Kent.
 "Roxley Bridge," Chessington, Surrey. John Tims, Wimbledon.
 "The Gairn Ferry," D. Wardrop, Portsmouth.
 "The River Wye," E. P. Vulliamy, Glasbury.
 "St. Ives Harbour," Cornwall, F. G. Smart, Tunbridge Wells.
 "On the River Tavy," W. H. Scott, Bradford.

* * * *

THE entry forms, etc., for "Travelling Studentships," will, we hope, be ready next week, and the entry forms for "Ladies' Competition," will also be ready in a few days.

* * * *

It will be noticed on reference to the head of the Sale and Exchange column, that we have added another department, *i.e.*, the reporting upon goods offered for sale if sent to us for inspection; latterly several very heavy purchases have been made through our report. For this work we are, of course, compelled to make some charge, but we feel sure, to those living on the Continent, abroad, or in remote districts of the United Kingdom, this addition will be of great service.

* * * *

WE make an appeal this week for our subscribers requiring advice as to purchase of apparatus, criticism on photographs, etc., to write us *before* Tuesday whenever possible. The work under the heading "Editorial" increases enormously, and we are delighted to find our advice so sought after, but unless letters are received earlier it will be impossible to give all matters attention in the current issue.

* * * *

THE Hon. G. N. Curzon, M.P., who has just returned from his tour in Persia, concerning which he has written many interesting letters to the *Times*, told an interviewer that "nobody should travel nowadays without a Kodak." The youthful Member for Southport has taken scores of instantaneous photographs, which he intends using in his forthcoming book on Persia.

* * * *

WE are determined to push stereoscopic photography. A contributor to our late competition writes: "I believe stereoscopic work will come to the front again, mainly through the efforts of the AMATEUR PHOTOGRAPHER. I have introduced *four* tip-top workers to start it in the last month." We shall be glad to hear from any of our readers who have the ability and inclination to contribute a series of articles upon "Stereoscopic Photography."

WITH reference to a recent "money prize" gained by a competitor, he writes, "Thank you very much, and I feel *very proud* that I was able to secure first prize, as I consider it a great honour. I shall buy a gold charm for my watch chain, and have it engraved."

* * * *

A LESSON IN ART.

THERE is now being exhibited at the Fine Art Society's Gallery a series of pictures which it would be well worth while for every intelligent photographer to spend a couple of hours in studying.

Amidst the senseless strife which has been now raging and now smouldering, between those who style themselves "naturalists" and those who, with contending arguments, traverse their every statement, it is somewhat difficult to discover what should be the aim of the photographer who wishes his results to be something more than mere topographical representations.

Inasmuch then, as an ounce of practical observation is worth a ton of theoretical argument, it may well be advantageous for the would-be artistic photographer to inspect the charming pictures of Japanese life and scenery with which Mr. East has adorned the walls of No. 148, Bond Street. And if, after duly studying them, he asks himself what it is that gives these sketches their special charm, he will be bound to acknowledge, whether he be a "naturalist" or not, that it is their entire truthfulness to nature.

The majority of Mr. East's pictures are street or roadside scenes, tea-houses, temples, shrines, and cottages, with overhanging trees laden with plum or cherry blossom, the soft tints of which the artist most faithfully renders. Take No. 11, for instance, and note the painting of the different varieties of plum-blossom, and the beautiful blending of the colours of the house-roof with the dress of the figure and the flower-laden bough.

The artist's figures in the street scenes are often so placed and posed as to remind one of a well-conceived photograph; they frequently carry the air about them of being just about to step out from their doorways, or of walking along the street, so naturally are they rendered. No. 19 is a particularly attractive little bit representing a street scene on a rainy day, with the purple thatch giving the idea of being thoroughly soaked with rain, while along the street running with water, the picturesque figures, with their quaint umbrellas and high wooden shoes, gingerly pick their way past the white post that marks the police station. Mr. East, too, has a wonderful knack of grouping his subordinate figures, especially in the background, as in No. 39. No. 40 is a characteristic interior of a tea-house, with a group of girls squatting in the shade of a vine-covered verandah, while the still darker shadows of the interior of the building are yet seen to be peopled with figures. Nos. 41, 44, and 43 are all most interesting, and illustrate the artist's wonderful faculty for happy selection of subjects. The "Great Temple at Nikko" (No. 41) is, perhaps, one of the most finished of Mr. East's conceptions.

Then there is the earnest care manifested in rendering the varieties of atmospheric effect, the afternoon glow upon the pond of lotus flowers (No. 42), the truthful rendering of the snow scene (No. 51), without the least tendency to exaggerate or idealise, the moonlit lake in the beautiful landscape (No. 16), and the idea of dampness implied by every touch of No. 87—all testify to the artist's

power of conveying, in what he paints, that which cannot be painted.

It is noticeable that, amongst the various landscapes exhibited, there are not half-a-dozen in which some moving thing—even if it only be a boat or a wild duck—is not introduced. The distances of many of Mr. East's landscapes have as a background the well-known form of the great Japanese mountain Fuji-Sau, and it would be a good lesson for the *blurring* school of artist-photographers to study these distances, and mark well that the artist does not obtain the idea of intervening space and atmosphere by throwing the background out of focus, but paints the sharp outline of his snow-capped mountain clear and clean against the sky, —and yet the idea of great distance is truthfully preserved.

Many a lesson, indeed, can be learned from this series of delightful pictures, but we photographers, with the means we have at our disposal, cannot dare to emulate the artist in water colour or in oils; and this is more especially true of pure landscape. And it is from Mr. East's street scenes and roadside glimpses that we can gain most help for our work with the camera; we learn here exactly how and where our figures should be placed in connection with these surroundings, so as to obtain a perfect harmony of composition; for instance, in the large picture No. 98, where the arrangement seems most carefully thought out and composed without in the least detracting from its truth and naturalness. No. 96, too, is another absolutely truthful picture, the clearing up of the clouds off the distant mountains, and the street half filled with umbrellas put out to dry, conveys just the idea that the artist intended, and carries the stamp of truthful and masterly handling upon its face.

We are told that "Art is born of the marriage of Fact with Idealism." At any rate, Mr. East has spent ten months in Japan in order to paint Nature, and whether he has idealised the "fact" of Japan is not for me to say, but what he has succeeded in doing is this: he has given us more than one hundred pictures of Japanese life and scenery that are absolutely true to nature, that faithfully represent Japan, not as she is painted by her native artists—symbolised, idealised, impressionised, charming, perhaps, but not true—but as she really in fact is. He has succeeded so well, we may be sure, because he has realised the distinction between that which is true to nature as seen with an artist's eye, and that which would *not* be true to nature if rendered by those means which an artist has at his disposal, means which at the best cannot but fall short of the beauty of nature itself. That something which the artist does not reproduce on his paper or his canvas may be something which, if reproduced, could not truthfully represent nature, and the true art consists not in idealising what the artist *can* reproduce, but in leaving out that something which he cannot render so as to suggest its *feeling* though not its sight.

All those who give themselves the pleasure of inspecting Mr. East's pictures, to whatever school they may belong, cannot but go away with the conviction that he has with the most consummate skill brought the truth of nature home both to our eyes and to our minds, and if they want to find fault with his pictures, let them remember that it is Truth they have before them, and that "one beautiful fact of nature incompletely represented is worth any number of completed lies."

Letters to the Editor.

AMATEUR INTOLERANCE.

SIR,—In your issue of the 7th inst., I see the President of the Sheffield Camera Club is reported to have spoken to the following effect.

In their Club the professional element did not enter, not that he would say one word in disparagement of the professional photographer; but he felt strongly that a society could not do well which had both the professional and amateur within its ranks.

As a very old amateur, may I suggest that the President of the Sheffield Camera Club, when next up in town, should pay a friendly visit to a meeting of the Photographic Club, the London and Provincial, or the Camera Club? He will be welcome, I know. Should he do so, I verily believe he will return to Sheffield with broader views than he evidently holds at present.—Yours, etc.,

L. B.

March 10th, 1890.

[NOTE.—The Camera Club is a club of amateur photographers, and the rule regarding their nomination and election is strictly adhered to.—ED: AM: PHOT:]

SIR,—The suggestion that an amateur should lose his amateurship if he receives money just to cover his expenses will surely bear hardly on many an enthusiast. Take my own case. I "potter" a little in photography as a recreation from clerical duties. From the very first, as soon as I got anything at all on plate and paper, I have sent my productions to my mother for sale, "just to cover expenses." She, worthy soul, buys my rubbish without complaining of the transaction, because she knows it costs money; though she used to complain with good reason that my portraits were caricatures, and that she found it difficult to determine which was the right way up of my landscapes.

Now, if the suggested rule is enforced, what am I? I am not an amateur, forsooth, because I receive money. I am not a professional, because I do it as a recreation, and I take it that a professional would sell his productions on their merits—which I certainly could not. Then what am I? Will someone kindly give me a name? Because, perhaps, in a few years, I may be able to enter one of your competitions, and I should like to know in what class to enter myself.

Thanks for the help your paper is to me, removed from any available source of personal help. The other day I sent for a specimen copy of all the photographic periodicals I could hear of, but not one could be compared with yours in attractiveness and in the assistance it gives to befogged dabblers like myself.—Yours faithfully,

PARSON.

* * * *

CONSTRUCTION OF CONDENSERS.

SIR,—I can answer Mr. W. L. Groves' No. 2 question by saying that there are *no* parallel rays issuing from the condensers at all. The rays from the illuminant form conjugate foci; that is to say, they impinge upon the condensers as a cone, and emerge therefrom in another (reversed) cone. My lantern takes all to pieces, and in a darkened room I can observe the path of the rays as revealed by the dust in the air.

My mode of finding the position for the illuminant was this: Placing the negative in its position, I focussed the same to the determined enlargement on the white screen, then fixing the apparatus I removed the negative, and shifted the illuminant backwards and forwards until I had obtained the most evenly white disc. Now removing the enlarging lens, I saw that the light rays came to their focus exactly at the spot previously occupied by the said enlarging lens. Repeated trials with varying enlargements confirmed this experience, so that "the proper place for the illuminant" is the conjugate focus given by the condenser of the enlarging lens, and the best way of finding it is as above given.—Yours truly,

FRED. DAVIS.

SIR,—I much regret that I made the omission in my letter to which Mr. Groves refers to-day. The difficulty he sees is surmounted in the following manner: I have some opaque material (such as is used for focussing cloths), and cut it out and sew it together in the form of a cone, the size of which is, I may

say, immaterial. Then through the smaller portion of the cone I pass the brass tube, and tie it round tightly with silk or fine wire. The large part or base of the cone is nailed so as to enclose the aperture in the side of box. I say that the size of cone is immaterial, but, of course, that is as to largeness; if too small, the tube would not have enough play backwards and forwards. As regards the light coming through the tube, I do not find that to be the case, the diameter of tube being only just large enough to permit the passage of the magnesium ribbon. The fingers which propel the ribbon through the tube would, in any event, stop any light. The plan I adopt in this method of enlarging is, no doubt, crude, but, with a little practice, I am sure it will give your correspondent satisfaction.—Yours, etc.,

March 10th, 1890.

FREDK. W. MUNCEY.

[NOTE.—We have a letter upon this subject from the Hon. J. G. P. Vereker, but have had to prepare a diagram.—ED: AM: PHOT:]

* * * *

DRY PLATES IN SWITZERLAND.

SIR,—We often see it stated that there is a heavy duty levied on dry plates imported by dealers into Switzerland. I would very much like to know from you, sir, or some of your correspondents, whether the same rule applies to films; i.e., is the duty on the glass, or on the sensitive material spread thereon? Also if it applies to plates brought by travellers for private consumption. Baggage is never examined going into Switzerland, but at the frontier station an official sometimes puts his head into the carriage and asks some questions, unintelligible to most folks, which might be, "Have you anything to declare?" As nobody ever seems to answer, the meaning of the question seems not to matter much. Still, it would be satisfactory to know the exact state of the case.—Yours, etc.

GREENWOOD.

* * * *

NEWCASTLE-ON-TYNE PHOTOGRAPHIC EXHIBITION.

SIR,—Since writing you last we have had a great number of applications for space, although exhibitors have till the 1st April for sending in the above.

Some of the leading American amateur photographers have promised to send pictures to our exhibition. Three concerts, several lectures and lantern demonstrations have been arranged, and others are in progress. The catalogue will be illustrated by a number of reproductions of exhibitors' pictures by one of the best processes. Local photographers will be well represented, and nearly all the screens have been let.—I remain, yours truly,

EDGAR G. LEE

(Joint Hon. Sec.)

* * * *

PHOTOGRAPHIC SOCIETY FOR BEDFORD.

SIR,—We are endeavouring to form an amateur photographic society for Bedford, and shall be very glad of any hints through your valuable paper. We should also be very much indebted to any Secretaries who will kindly let us have a copy of their rules, which may aid us in framing those for our own Society.—I am, yours faithfully,

ALEX. KIRBY.

8, Harpur Place, Bedford.

March 5th, 1890.

* * * *

GAS CYLINDERS.

SIR,—I am glad to see that the subject of the safety of gas cylinders is likely to be ventilated in your columns.

I quite expected that Brin's Oxygen Gas Company would have responded to your invitation to give us their experience of compressed gases under these conditions.

Their attention cannot have been called to your article on "Gas Cylinders," or they would most certainly have set at rest what may prove to be the groundless fears of those who would like to use so convenient a form of gasholder. Might I suggest that you should forward them the AMATEUR PHOTOGRAPHER containing that article?

My experience of the use of these cylinders is very small, having only used them twice.

The difficulty I had to contend with was to maintain a sufficiently continuous flow of the gases, as directly a higher pressure was turned on in the hope that it might be controlled by the small jet taps, the pipes were immediately blown off. This, of course, extinguishes one of the gases, and is likely to disturb the audience.

Would the gases be more under control if each gas was turned into its own pressure bag, or are the so-called patent regulators efficient? The latter method surely is the most expensive? Perhaps some of your correspondents or Mr. Hepworth would kindly give us information upon a subject which would be most useful to those using lime-light for enlarging purposes or lantern work.—Yours truly,

W. B. M.

March 4th, 1890.

[NOTE.—We shall be very pleased if Brin's Oxygen Gas Company will give us their experience.—ED: AM: PHOT:]

SIR,—Mr. C. Hethton Lewis, in his letter of the 24th February, expresses surprise that the cylinders are tested by hydraulic pressure. If he will refer to any elementary work on hydrostatics he will find that although water is theoretically an incompressible body, yet when confined in a closed vessel it is able to transmit the pressure communicated to any and equally to every area of the vessel. If the cylinder withstands the pressure of 1,800 lbs. on the square inch when tested by hydraulics, it is evident it will withstand a like pressure when filled with compressed gas. There is no advantage in using compressed gas, since the object of testing the cylinder is to find out the pressure on the square inch capable of being borne by the cylinder, and this can be easily and safely done by means of hydraulics.—Yours truly,

March 4th, 1890.

E. M. VAUGHAN RODERICK.

SIR,—May I be permitted to trespass on your space in order to make some remarks on the subject referred to in Mr. Lewis' letter on page 137?

With his first paragraph I entirely agree; in any case of explosion of a cylinder it is of the greatest importance to find out, if possible, whether or not a mixture of the gases could have taken place, an accident which only the utmost carelessness could occasion.

It is, however, the third paragraph which is most striking, and its contents are evidently the result of an insufficient acquaintance with the laws and methods of physics. In saying this I do not in the least mean to be unkind to Mr. Lewis, and I trust he will not take it in that way, especially as his later remarks show that he has only put forth suggestions on which he seems to invite criticism.

It is quite true that water is practically an incompressible substance (a pressure of 100 atmospheres causing a diminution of only .005 of its original volume), and it is this fact that makes it such a valuable agent in testing the resistance of such things as gas cylinders. In carrying out this test, the gas cylinder is connected with the cylinder of a hydraulic press, the whole system being filled with water, and pressure (10, 20, or 100 atmospheres as required) is applied by means of the piston. Now, by what is known among physicists as Pascal's law, "pressure exerted anywhere on a mass of liquid is transmitted undiminished in all directions, and acts with the same force on all equal surfaces and in a direction at right angles to those surfaces." Thus supposing the area of the piston be 2 sq. ins., and 1,200 lbs. pressure be applied to it (i.e., 600 lbs. per sq. in.), every square inch of the inner surface of the gas cylinder is also subjected to a pressure of 600 lbs. or 40 atmospheres. Now, had gas been used instead of water, it would have been necessary, owing to its extreme compressibility (the volume varies inversely as the pressure, according to Boyle and Mariott's law), to use elaborate machinery to pump in a large quantity in order to get the required pressure (in our supposed case, 40 atmospheres).

But the effects of the pressure on any surface supporting it would be identical, in whichever way it is applied. And it is clear that if a cylinder be tested with double the pressure (as I believe is done with gas cylinders) it is to bear in practice, there will be no risk of it giving way if properly used.

Let us now consider the effects of the application of pressure beyond the limit of resistance of the cyl. (kindly permit this contraction). If pressure be applied and gradually increased, the strain becomes greater and greater until at length that region of the cyl. whose limit is first reached (i.e., the weakest part) gives way, and a rent appears, the strain elsewhere being immediately relieved and so the cyl. merely rips.

But supposing, instead of this gradual increase, the cyl. be filled with an explosive mixture of gases (e.g., hydrogen and oxygen), and a little of this be allowed to escape in the neighbourhood of a flame; an explosion occurs, runs down the pipe, and involves the mass of mixed gases. The result will be the sudden generation of an enormous pressure, many (perhaps many

hundred) times that which the cyl. is constructed to bear, and the force of disruption acting thus suddenly on every part of the internal surface of the cyl. it is literally blown to pieces, the action being so instantaneous that the disruption is too rapid for the relief caused by the giving way of the weakest part to take effect.

The only way to test a cyl. for this sort of strain is to explode mixtures in it, and a cyl. that would stand it would be too unwieldy to be commercially possible.

In the old gas-bag days it was possible to draw one gas into the other bag by accidentally taking the pressure off that bag, but with gas compressed in cylinders we cannot take the pressure off. I will not refer to the method of connecting an o-cyl. to a h-cyl. direct, and so getting, in time, a mixture by diffusion. No one not bent on suicide would try that. The only chance of a mixture occurring seems to me to be that the manufacturers might by mistake pump some of each gas into the same cyl., and I would suggest that they should make it a rule to test every charged cyl. by letting a little gas escape on to a flame immediately before sending it out.

One other possibility I can conceive. The effects of vibration on wrought iron are well known; it causes it gradually to assume the crystalline and more brittle form of cast-iron; this is found to occur in railway axles and girders. Possibly if a cyl. were subjected to constant vibration it might get more and more brittle, and at last yield (it would, I fancy, rip). Again, one can imagine that a sudden jar, such as a fall, might, in its already state of tension, determine a sudden crystallisation, a sudden large diminution of resistance equivalent to a sudden large increase of pressure, and so violent disruption. I take it, however, that these are rather theoretical than practical possibilities, scarcely admitting the use of the word dangers.

As to Mr. Lewis' suggested experiment, all I can say to the first is—try it! I expect the blows would break the bottle before the pressure, but I don't know. Anyhow in this, as in the next, the illustration is scarcely fair, glass and wrought iron being so very different in structure. The heated bottle would certainly burst and probably cause considerable trouble in collecting the bits. It may be interesting to compare the results of Major Williams' experiments on shells filled with water and put out to freeze (*vide* Deschanel's "Physics") with the effects produced by exploding similar shells by a charge of gunpowder.

With regard to rust, water only causes it by virtue of the oxygen usually dissolved in it. Oxygen is said not to attack iron unless some (if only the slightest trace) of water be present. Even then the first layer of oxide formed protects the underlying iron. Obviously, it is best to thoroughly dry the cyl. after testing, and to charge it with carefully dried gas.

This note has spun itself out beyond my original intentions, so I must conclude with apologies for its length, and remain, sir, yours truly,
ERNEST H. CARTWRIGHT.
March 3rd, 1890.

"Thursday Evenings" at the Camera Club.

BY ONE OF OUR STAFF.

ON Thursday, March 6th, Mr. Pringle gave an address on "The Optical Lantern. Mr. Francis Cobb occupied the chair.

Previous to the lecture a handsome testimonial, silver jug and three goblets, was presented by the members to Mr. E. G. Spiers, as a friendly recognition of his late valuable services as Hon. Secretary to the Camera Club Company.

The Secretary handed round a copy of the work called "Giphantia," published in 1761, in which was found the singular forecast of photography read at a previous meeting. The book, which had been lent by Mr. A. C. Lyster, is a translation from the French work "Giphantia," by Tiphaigne de la Roche, published at Cherbourg. The Secretary also handed round a convenient little actinometer arranged as a small printing frame, in which a small scale of letters of different densities, printed on silver paper, served as the indication of sufficient exposure for printing in platinum. He believed the instrument would be brought out by the Platinotype Company. Mr. Charters White also exhibited a series of photographs bearing on the subject treated of at the

previous meeting—"Photography applied to Medicine and Surgery." The photographs showed in succession the means adopted for patching up and giving artificially a normal appearance to the face in the case of a patient who had suffered severe ravages from cancer.

Mr. Pringle introduced and carried through his subject in a lively and interesting manner. He discussed the general optical system employed in the lantern, treating of the different forms of condensers, of projection lenses, and of the lamps and jets used for the purpose. Condensers could not be too small consistent with reasonable covering of the slide. The projection lens should be one of flat field, and should transmit the maximum of light. Lantern bodies, he thought, were absurdly large, and he exhibited two, one of which, a practical instrument by Mr. Beard, would go into a box 10 inches cube. "Cottages" were very well for public lectures. He also showed a double lantern specially adapted for scientific lectures or demonstrations, and a historical set of jets and lights, including the Beechey jet, one of the oxycalcium system, and several samples of blow-through jets. The demonstration of the working of Mr. Albert Scott's gasoline saturator and jet was of great interest to the meeting, the light obtained being very excellent. Mr. Beard also showed the working of the Broughton ether tank, etc.

Mr. Pringle referred to many other points of interest connected with difficulties and phenomena in lantern work, and treated of the choice and use of limes, the making of gases, regulators, pressure gauges, carriers and screens.

Some interesting remarks by Mr. J. Traill Taylor followed, and in the discussion Messrs. Elder, Baker, Whatton, J. F. Roberts, Beard, and Dr. Patterson took part.

On Thursday, March 20th, there will be an exhibition of lantern slides at the Society of Arts in connection with the Conference.

Winter Work.—XXIII.

BY T. C. HEPWORTH, F.C.S.

PHOTOGRAPHY BY MAGNESIUM LIGHT.

(Continued from page 156.)

THE metal magnesium, although it is combustible when in the form of ribbon or wire, is not easily inflamed, the heat from a burning match being hardly sufficient to bring it to the point of incandescence. Apply a match to a little heap of the powdered metal, and as the fire sluggishly runs from particle to particle, it will feebly glow, without any sign of its wonted radiance. But scatter the same amount of powder in a suitable flame, and we immediately have a blinding light, and something after the nature of an explosion. We may, therefore, look upon magnesium as being inert until its particles are separated in the air, when it at once becomes explosive.

It is only within the past quarter of a century that what are called dust explosions have been made the subject of study and experiment. Attention was first called to the matter by certain mysterious explosions by which flour and other mills had been totally wrecked, or set on fire. Enquiry soon showed that these occurrences were due to flame reaching dust-impregnated air, and experiment proved that such apparently innocuous substances as the dust from carpenters' shops, starch, sugar, buckwheat, flour, oatmeal, etc., when in a state of minute sub-division, and suspended in the air, are most dangerously explosive. It is also known that fine coal dust in dry mines has led to explosion where naked lights are used, and it is now the rule to keep dry workings artificially watered. In America, possibly because of the dryness of the atmosphere, dust explosions have been numerous, and have been attended by loss of life and great loss of property; but the instances in this country are comparatively rare. We may reasonably place magnesium

among the dusts that are liable to explosion when each particle is separated from its neighbour and is surrounded by the diluted oxygen of the atmosphere.

Attempts have been made to increase the light of magnesium by burning it in an atmosphere of pure oxygen. Under such conditions the combustion is far more rapid, and the light is of a most blinding nature. But such increase of radiance is really of no photographic value, for the light given by the metal burnt in ordinary air is quite sufficient to impress a gelatine plate. I shall presently show that far more benefit is derived from increasing the number of flashing lamps rather than attempting to add to the efficiency of any one point of light, and even in these days of commercially-supplied oxygen, it is by no means easy, in the absence of specially contrived apparatus, to burn the metal in oxygen. It was doubtless with a view to obviate this difficulty that various flash-giving powders have been compounded in which some salt, rich in oxygen, has been associated with magnesium. All these should be regarded with suspicion—for some of them are most dangerous—and have led to fatal results. As already pointed out, chlorate of potash is a dangerous thing to handle if mixed with any compound of sulphur. But even when mixed with the magnesium alone, it forms an explosive compound of such energy that if used, in this way, only a very small portion should be fired at one time. The greatest caution should be exercised, too, in guarding the hand from proximity to the flash, for I have learnt by experience that a most painful burn can be the result of carelessness in this respect.

There is no doubt that for photographing interiors of rooms, the flash light is of very great service, and by its aid we are sometimes able to get pictures which would be difficult to obtain in any other way. It is easy enough to get a picture of a room by daylight, if we are particular to exclude that side of the apartment where the windows are. But in some cases the windows with their hangings form the most attractive part of the interior decoration, and if they are excluded the picture is lacking in interest and in fidelity to the original. With a flash light, or for such a purpose with a slow-burning magnesium ribbon lamp, we are able to secure an image of any part of the room which we like, and we can, within certain limits, move the lamp during exposure, or, in the case of a flash-lamp, between successive exposures, and thus exert a softening effect upon the shadows. I remember that some time ago a flash-light picture was exhibited which showed what could be done by judicious arrangement of apparatus of this kind. The picture represented a suite of rooms, one leading into the other, and the last terminating in a conservatory. The rooms were richly decorated and handsomely furnished, each one being separated from the other by *portière* curtains of lace, etc. The charm of the photograph was in the perfect focus of every part, the distant conservatory being as sharply defined in outline as the nearest room. This was brought about by burning magnesium in each of the rooms in succession, and giving, besides a separate exposure for each, a special adjustment of the focussing screw.

For special purposes, such as photographing the interior of a cave or vault of large size, where smoke is not objected to, and where exposure must be of a prolonged character in order to coax detail out of dark corners, some form of pyrotechnic mixture, of which powdered magnesium forms a part, is, I think, the best thing to employ. Here is a compound which will burn well—

Saltpetre	..	..	..	2	ozs.
Sulphur	..	..	..	1	oz.
Antim. sulphide	..	..	..	$\frac{3}{4}$	„
Magnesium	..	..	..	$\frac{1}{2}$	„

This mixture should be pressed into large wooden boxes, such as are used for ointments by druggists, and the lid can be kept on until the moment when the box is required for use, when it can be fired with a slow match or touch-paper. One or two boxes of this kind will give a dazzling blaze of light for several seconds.

It is quite obvious that if we reject the plan of associating the magnesium with some explosive or inflammable compound, and use it alone, we must have some kindling flame into which it must be projected. One of the first plans suggested was to use an ordinary argand gas burner without a chimney, and by means of a central tube placed just within the ring burner, but at a slighter lower level, to blow the magnesium dust into the annular flame. It was asserted that this obviated any waste of the metal, the fact of the flame forming a wall all round it preventing any particle escaping. This I have found in practice not to be correct, for after using such an arrangement I have found particles of unconsumed magnesium lying about the room in abundance.

A far better source of heat is represented by one of those cheap little spirit stoves which can be bought for a few pence, and which consist of a pad of cotton wool, or asbestos held in a metal disc and covered over with brass wire gauze of fine mesh. This metallic pad is saturated with methylated spirit, and when a light is applied the flame given by it is both very large and very hot. Magnesium dust projected into such a fiery furnace is wholly consumed with brilliant light. There is attached to many of the flash contrivances sold a wire-covered pad of this description.

I will now point out how by the aid of one of these cheap spirit stoves or pads a very efficient flash-light apparatus can be made. Procure or make of wood or tin a box about two feet high and one foot square. The size is not of very great importance, but the box should at any rate not be smaller than the measurements given. Bore holes all round the bottom and top edge so as to provide abundant ventilation, and if the box is of wood, let the top at least be made of tin. In the true centre of the bottom of the box, as it stands on end, describe a circle which should be distinctly coloured or otherwise marked so that its place can be readily found. Upon this centre must stand the spirit stove on the little tripod which is sold with it. Immediately over it, that is in the centre of the top of the box, let there be a hole about two inches in diameter. The inside of the box, if not of bright tin, should be lined with silver paper so as to have a good reflecting surface, but the front of the box should be furnished with a frame covered with tracing cloth, which can be put in its place just before the exposure is made, and after the spirit lamp has been charged and lighted. Things being thus arranged, and the camera and sitter being ready for the exposure, the slide of the former is drawn and the lens is uncapped. Now pour sufficient magnesium powder into a perfectly dry teaspoon. Bring the teaspoon over the central hole in the top of the box, and with a glance to see that all is right, simply invert it. The magnesium is, of course, emptied direct into the flame below, with its particles widely separated, and therefore in the best condition for perfect combustion, and the result is a blinding flash of light sufficient for any ordinary exposure in a small room. The object of the tracing cloth screen is to diffuse and soften the light, and to take away those very strong contrasts of light and shade which otherwise make themselves objectionable in this kind of work. A reflecting surface should of course be used on the other side of the figure—as in daylight portraiture in an ordinary room. This apparatus would be brought to the greatest perfection if it were furnished with a chimney by which the smoke could be carried to the open air.

(To be continued.)

Chemistry for Photographers.

By C. H. BOTHAMLEY, F.I.C., F.C.S.

(The Yorkshire College, Victoria University).

(Continued from page 138.)

EXPERIMENT 19.—Take a piece of stout sheet zinc about 10 cm. (4 ins.) long and 4 cm. ($1\frac{1}{2}$ ins.) broad, and a similar piece of copper; to one end of the zinc fasten one end of a piece of moderately thick covered copper wire, such as is made for electrical purposes, and fasten one end of the sheet of copper to the other end of the wire, which should be about 30 cm. (1 ft.) long. By means of dry thread or fine string, tie the zinc and copper to a small piece of dry wood about 3 mm. (eighth of an inch) thick, as shown in fig. 11. Take a small magnetic needle mounted on a pivot (a pocket compass will do), and bend the copper wire so that it passes round the needle in the manner shown.

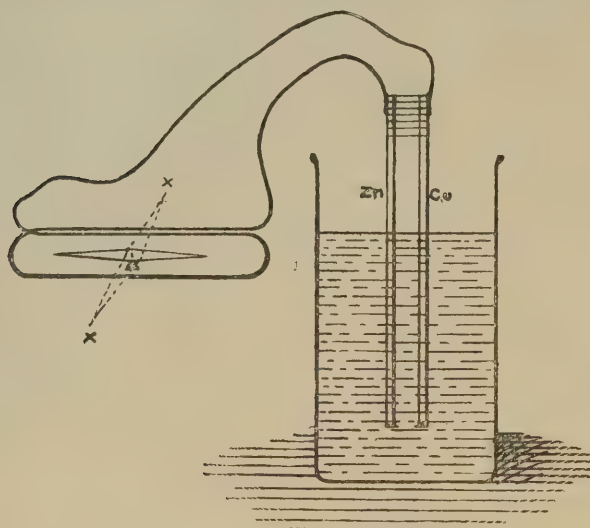


FIG. 11.

Now it is known that if an electric current passes along a wire placed over a magnetic needle, the latter swings round and tends to take up a position at right angles to the direction of the current. By making the wire pass twice over the needle in the same direction and once under it in the opposite direction, we multiply the effect exerted on the needle by any current which may pass along the wire. Arrange the coil of wire so that when the needle is at rest the wire is parallel with it, and passes directly over it and under it. Then, keeping the wire and the needle in the same position, immerse the zinc and copper to a depth of about 5 cm. (2 ins.) in a beaker containing sulphuric acid diluted with twenty times its bulk of water. That some chemical change takes place is shown by the evolution of gas from the surface of the copper, and the fact that the needle swings round and takes up a new position, *x x*, shows that an electric current passes along the wire.

From this experiment we learn—(1) that *under certain conditions chemical action develops an electric current*, (2) One of the ways in which an electric current can be detected.

The arrangement of zinc, copper, and connecting wire used in this experiment is the simplest form of a galvanic battery.

We have now become acquainted, by our own observations, with the principal outward signs of chemical changes, which may be briefly summed up as change in appearance, change of state, development of heat and light or of heat alone, and the development of electricity.

We must next consider the conditions under which chemical changes will take place. We have seen by previous experiments that gases will act upon one another and that liquids also react readily; we have still to learn whether any chemical action will take place between solids.

EXPERIMENT 20.—Powder separately small quantities of dry potassium iodide and mercuric chloride, and then shake the powders together in a dry test-tube. *Observe* that some particles of a scarlet substance are formed, but the change does not go very far. Turn the mixture into a dry mortar, and grind it up well, using considerable pressure. *Observe* that the action proceeds much further and the mass of the mixture becomes scarlet. Compare these results with the action of a solution of mercuric chloride on a solution of potassium iodide (experiment 15).

EXPERIMENT 21.—Make a precisely similar experiment with potassium iodide and lead nitrate. In this case the product will be yellow. Compare the results with the action of a solution of potassium iodide on a solution of lead nitrate (experiment 16).

From these experiments we learn that *chemical action will take place between solid substances, but only to a very limited extent*. Even after the solids have been well ground up together, the action is by no means complete; if a small quantity of water is added and the mixture is ground up with it, the much deeper colour which is produced shows that the change has gone much further. It is found, however, that if many mixtures of this kind are subjected to extremely high pressure the chemical reaction between them becomes complete.

In order that chemical action may take place at all, *it is essential that the particles of the substances concerned should come into the most intimate possible contact with one another*; a degree of separation too small to be recognised by the most powerful microscopes is sufficient to prevent any change taking place. The mobility of the particles of gases and liquids enables them to mix perfectly, and the necessary closeness of contact is ensured. It follows that if substances can act chemically upon one another such action will take place readily enough if they are in the liquid or gaseous condition, provided that the other conditions are favourable. The particles of solids, on the contrary, have no freedom of motion, and even in the very finest powder the substances are only in contact at a limited number of points, as we can easily see if we examine the powder with a good microscope. Chemical change can only take place at these points; it cannot spread to the particles which are not in contact with one another, and hence remains incomplete. By grinding the particles together, fresh surfaces are brought into contact, and the action proceeds, but it is only under extremely high pressure that the contact becomes so intimate that the change can become complete. If, however, the solids are dissolved in some suitable liquid, they behave as part of the liquid, and their particles have the mobility favourable to chemical change. It follows that unless there is some objection to such a course, solid substances which are required to act upon one another should be converted into liquids either by the action of heat or by dissolving them in some suitable solvent.

The experiments already performed have shown that many substances react as soon as they come into contact even at the ordinary temperature, but this is not always the case. A candle, a piece of coal, or a piece of sulphur may remain exposed to the air for any length of time, without undergoing any appreciable alteration, but if they are heated up to a certain point a chemical change begins, *i.e.*, they take fire and burn away.

EXPERIMENT 22.—Mix some copper turnings with half their weight of sulphur, place the mixture in a dry test-tube,

and allow it to remain for some time at the ordinary temperature. *Observe* that no action takes place. Now heat the tube, having first placed the burner or spirit lamp on an old plate to catch the contents of the tube if it should crack. *Observe* that when the mixture in the tube has been heated up to a certain point energetic action takes place, and the mixture becomes red hot. *Many substances undergo no change at the ordinary temperature, and will react only when their temperature is raised to a certain point.*

EXPERIMENT 23.—Dissolve 2 grammes (30 grs.) of lump sugar, and 2 grammes of potassium dichromate in 100 c.c. (1,500 fl. grs.) of water, either in the dark-room or by gas light. Place one half of the solution in complete darkness, and expose the other half to sunlight. *Observe* that the portion kept in the dark remains unchanged, but the portion exposed to light undergoes considerable alteration, and becomes turbid and dark coloured.

Many chemical changes which will not take place in the dark will take place when the substances are exposed to sunlight.

(To be continued.)

Hambling Papers.—X.

BY W. K. BURTON.

ORTHOCHROMATIC PLATES.

THESE plates do not seem to have done so much for ordinary landscape work as was at one time expected. The reason, I believe, is not far to seek. So far as landscape work is concerned, there are two objects in using orthochromatic plates. One is to get out the greens more fully, the other is to get the distances clearer. No one who has anything of the artist in him will try to get distances as crisp and bold as foreground objects, although that was the ambition of many photographers at one time; but all object to the exaggeration of the thin bluish veil that gives the idea of distance, till it obliterates the detail of the distance altogether, or perhaps makes it indistinguishable from the sky, that takes place when ordinary plates are used. Now, the fact is that orthochromatic plates will effect neither of these objects, other than to a very slight degree, unless a yellow screen is used. There may be a very little improvement in the yellows and greens, but it is less than we might expect from the considerable increase in yellow sensitiveness that the application of the best stains gives. This increase would show a considerable effect if we were dealing with *pure* green, but the truth is that, in the case of most kinds of foliage, we are not dealing with pure green at all, but with a mixture of green with so much white that the green scarcely needs to be considered at all as a factor in the photographic work. It is not always so, however, as I observed in rather a curious way the other day. I was taking a group on a turf-covered piece of ground close to my house. The turf appeared to be of the usual even green that healthy turf generally shows, but in the photograph it came out wonderfully patchy, so patchy as almost to spoil the picture by attracting attention to the pieballed appearance of the turf. I thought at first that the plate was at fault, but a second exposure brought out exactly the same appearance, so I then knew that there must be some actual difference in the grass. On a close examination it was evident that there was such. The ground had apparently been sown with two different kinds of grass. Unfortunately, I am not learned in such things, and cannot tell what kinds they were, but the next thing that I tried produced the most curious effect. I took a small piece of "red-stained" glass, and looked through it at the grass. Instantly it appeared pieballed, as it had in

the photograph, one kind of grass appearing as *absolutely* black spots on the other, which (due, of course, to its reflecting white light, all of which but the red was filtered out by the glass) appeared bright red. The effect of looking at the grass alternately with the naked eye and through the red glass was almost magical, the perfectly uniform tint suddenly springing into so strongly variegated a one.

In this case I tried the effect of an orthochromatic plate without a yellow screen, and found that, in the case of the *pure* green—that which appeared black through the red glass, there was a considerable improvement, the rendering being no longer clear glass; in the case of the impure green—that which reflected a deal of white light—there was no difference in the rendering at all. In other words, we would, in the matter of the greens, get a decided advantage, even without the use of a screen, if the greens were pure. We get no appreciable advantage when they are impure. Pure greens, such as that shown in the case of the patches of grass are, however, very uncommon, although they are sometimes to be met with.

It may be interesting to notice that there is the same difference between pure and mixed colours in the case of flowers, some of the colours being exceptionally pure. It is a thing both interesting and beautiful to look at a set of coloured flowers through different coloured pieces of glass, each letting through, so far as possible, the colour of one part of the spectrum only. Of course there are changes in contrast due to pure colour only, but there are others that are sometimes almost startling, due to differences in the purity of colours apparently almost the same. Two colours that appear to differ only by the faintest shade, suddenly, on looking at the flower through the glass, stand out in the strongest contrast.

So much for the yellow. As for the blue, including the haze of the distance, it is only necessary to say that, as orthochromatising does not, as a rule, reduce the sensitiveness to blue at all, that colour acts in the case of orthochromatic plates with the same amount of proportionate over-intensity as in the case of ordinary plates, unless a yellow screen be used to filter out the greater part of it. If the greens were *pure*, there would be some improvement *relatively*, but with them as they are there is little or no improvement.

The moral of all this is, then, that orthochromatic plates are of little use for landscape work without a colour screen; or rather, it is all only an explanation of the fact that all who have tried such plates without a screen for such work have probably found out for themselves. I think most, also, will agree with me that, in the present state of orthochromatic photography, the advantages to be gained by the use of orthochromatic plates along with the yellow screen are in the case of ordinary work too dearly bought, at the expense of the disadvantages and additional difficulties. The use of a yellow screen, even if ever so well made, *must* interfere with the optical properties of a lens, more or less; but, what is perhaps more serious, no one shade of yellow screen will actually supplement the shortcomings of orthochromatic plates; the thing is a make-shift after all, and it is necessary to use different depths of yellow tint for different subjects. I see that one optician has recently introduced a set, or series, of pieces of optically ground glass of tints increasing in intensity, so that whichever is thought best may be used. In spite of all that I have just said, I fully recognise the usefulness of this arrangement.

Improvements are being made perhaps more rapidly in orthochromatic photography than in anything else connected with the art, and we may, I have no doubt, hope for a very perfect plate before long—either one that shall be truly orthochromatic, giving the true values for the different

colours without the use of any screen at all, or one that is capable of being duly supplemented by the use of some one light tint, used as a screen. The first may be too good to hope for; if the latter were to come to pass, and there were no objection to the use of the plates in any other way, it would be quite worth while to use nothing but orthochromatic plates, and to permanently tint one or the other of the surfaces of our lenses. Or it might be worth while to glaze studios with a light yellow-coloured glass.

This latter is a thing that sounds a little strange at first, but it is not so wild a notion after all. Yellow lighting was long ago recommended, in the copying of *pictures*, instead of the use of a yellow screen, so that the working of the lens should not be in any way interfered with.

How strange it would seem to those who, in the olden days, glazed their studios *blue*—some under the mistaken impression that thereby they increased the actinic power of the light, others doing it merely to reduce the excessive glare without appreciably increasing the exposure—to hear it suggested that, in all seriousness, the studios might, with advantage, be glazed with *yellow*!

I do not want anything that I have said to be taken as against the use of orthochromatic plates for a hundred *special* purposes, and what I say against their use for general purposes at the present time must be taken as an expression merely of my own opinion, always liable to change.

(To be continued.)

Competitive Papers.—No. XII.

ENLARGEMENTS.

Third Prize.—F. C. THOMPSON.

If we produce a transparency from a picture placed before a camera, and then, with the camera still in position, substitute the transparency for the ground glass and a white screen for the picture, we shall, on illuminating the transparency from behind, get an exact reproduction of the original picture, and precisely in focus. And this will be the case whatever the original distances may have been. The image and the object are in all cases interchangeable. But without going to the above trouble, a small lamp and a sheet of white cardboard will prove the truth of the proposition experimentally, while we may be convinced of it from theoretical considerations, if we think that whatever course a ray of light may take, there can be no reason why another ray started in the opposite direction will not trace for itself precisely the same course, but opposite in direction. Thus whenever we "focus" an image, two points are involved, and each is the focus of the other; they are therefore called 'conjugate' foci, and their distances from the lens are connected together by a very simple relation, whatever these distances may be actually. A flat picture was taken in the preliminary illustration, because its points lie all in one plane; when a landscape is before a camera, we have points in an infinite number of planes, which will be focussed at different distances on the other side of the lens. By the aid of a "stop," however, we are able to effect such a compromise between the distances that the whole picture is said to be "in focus." This is not the place to discuss the properties of lenses in general; but it may just be pointed out that the margin of a lens refracts light more than the central portion; this difference of refractive power enables the optician, by paying great attention to the curves of the lens or lenses, to so construct a lens, or combination, that with the help of a stop the greater number of points in a view before a lens may be brought to a focus in one plane, an effect of the lens called "flatness of field." If the object be at an infinite distance, as a star, or, for practical purposes, the sun or even distant mountains, the rays of light from it are parallel, and the image produced is at an invariable point called the "principal focus" of the lens, or in speaking of a photographic combination, the "equivalent focus"—in either case, commonly referred to as "the focus." The term "equivalent" focus has reference to the fact that a single lens

may be found which will produce the same effect on parallel rays—that is, give an image of the same size as any given combination of lenses, and the focal length of the latter for parallel rays is said to be equivalent to that of the single lens; and this distance if applied between the compound lens and its image will be found to give a point which practically corresponds with the position of the diaphragm. As the object is made to approach the lens, its image recedes from the lens on the other side, and becomes larger, until when image and object are equidistant from the lens, they are of equal size. A further approach of the object causes the image to recede further, and with the object at the principal focus, the rays on the other side are of course parallel. Here a fact which can be proved by very elementary mathematics should be carefully noted; the size of the image bears the same proportion to the size of the object as the distance of the former bears to that of the latter. This fact we shall soon have occasion to make use of.

The formula expressing the relation between the conjugate foci of a lens is

$$\frac{1}{d} + \frac{1}{D} = \frac{1}{f},$$

where d , D , and f are the respective distances of the image, the object, and the principal focus, from the lens. With this equation we can construct a table for enlargement purposes with any particular lens, or we may make use of the formula directly for any given amplification. Suppose, *e.g.*, we intend to use a lens whose equivalent focus is 6 ins., and the enlargement to be from quarter-plate to 20 by 15 ins., *i.e.*, 5 diameters. This amplification tells us that the focussing screen must be five times further away from the lens (or diaphragm) than the negative is. Thus putting $5x$ and x for these distances, and 6 for f in the above equation, we get

$$\frac{1}{x} + \frac{1}{5x} = \frac{1}{6}$$

whence $x = 7\frac{1}{2}$ ins. and $5x = 36$ ins. The few figures necessary to solve the equation will suggest to any one the following rule: Multiply the equivalent focus of the lens by one more than the degree of enlargement required; the product will be the distance of the focussing screen, and divided by the amplification, will give the necessary distance of the negative from the lens.

To find the equivalent focus of a lens, we may of course focus an object at any distance; measure the distances of image and object, and find f from the above equation. Or we may proceed thus:—With a pencil, mark inches on the focussing screen, and then putting the inch measure before the camera, adjust the distances, so that its focussed image coincides exactly with the marks made on the screen; then remove the lens, and measure carefully the distance between the inch measure and ground glass; one-fourth of this distance is the principal focus required. An application of the fundamental optical formula given above will demonstrate the accuracy of this plan.

Before leaving the optical part of the subject, reference must again be made to the fact that a ray of light turned back on itself will trace backwards its original path; or what is the same thing, whatever the path taken by a ray, another ray in the opposite direction will follow the same path. From this it follows that if a distorting lens be used to produce a picture, and the picture be enlarged to the size of the object by the same lens, passing the light through the opposite way, the resulting enlargement will be free from distortion.

Obviously this will not be strictly true for any size less than the natural size, but it will be the case practically. This settles at once the point as to what lens is best for enlarging, unless one specially constructed for projecting be used. Any lens, too, giving a flat field is good, while an amateur possessing only one lens, and that a single one, need not be deterred from using it for enlarging, knowing that, used in the way indicated and with a small stop, it will correct its own errors of distortion. A lens of the rapid rectilinear type can, of course, be used with a large aperture—no small convenience in actual manipulation.

Undoubtedly, the simplest way of enlarging by means of daylight is to construct a frame to carry the negative in front of a hole cut in the shutter of the dark-room. The frame should slant so that the negative commands unbroken sky, or a reflector of glass or cardboard may be arranged outside, and controlled from within by a string, so as to reflect the largest amount of light through the negative. Projecting from underneath the

perforation in the shutter should be a board about 12 or 15 ins. long, with a square to carry the lens as an ordinary camera front does, sliding along its length. If the board is attached to the shutter by such a hinge as to allow it to be removed when not in use, the arrangement will be very convenient, and it may be adjusted precisely at right angles to the negative by a strut placed underneath. The square carrying the lens should have a "rising front" arrangement, as, of course, it is essential that the axis of the lens should pass through the central point of the negative. Various methods of clamping the square carrying the lens will suggest themselves to the ingenious worker; space will not allow of saying more here than that the writer uses a slot in the middle of the projecting board, and through this a clamping screw passes. Of course, no light must be allowed in the room but that passing through the lens (the red pane or panes excepted), and to prevent this, a cone of black velvet may be made and placed between the lens and negative, or a bellows of the ordinary form, or, if the distance is not great, the focussing cloth will do duty effectually. Or again, in place of all this, a camera may be placed on the projecting board with its back opened close to the negative, and lens on in front as usual. On a table in front of the window should be an easel capable of adjustment, so as to be accurately parallel with the negative, and carrying a flat board as large as the largest picture to be produced. If the enlargement is to be on paper direct, the image may be focussed on a sheet of white paper pinned on this board, or if glass is to be used, a sheet of glass of the proper size and thickness covered with white paper makes a most excellent focussing screen, and if fastened in its place by drawing pins at its edge, the sensitive plate may be made to occupy its plane with a minimum of trouble. The two distances involved in the enlargement are arranged, and the final adjustment made by moving lens or easel, as found convenient.

We are now in a position to discuss separately the production of an enlarged negative, and of a positive print direct.

Making an Enlarged Negative.—The first essential is a good transparent positive, for which ordinary gelatine plates may be used. It may be of the same size as the original negative, and produced by contact printing, or as large as the intended negative; the first plan offering advantages on the score of economy, and the second in ease of remedying any defect either of the positive itself, or the original negative. From the large positive a negative is made by contact. For the enlarged picture, whether positive or negative, any of the numerous films now in the market may be used, but it is essential that the small one should be very brilliant and transparent, and glass offers many advantages in this direction.

Most beautiful enlarged negatives may be made direct without the intervention of a positive by means of collodion (bath or emulsion), followed by alkaline development. The plate is developed and washed, and dilute nitric acid then poured over it, which dissolves the deposit. It is then washed, taken into the light, and developed again, when the parts not previously acted on by the light become so now, and by the action of the developer, a deposit is produced and a negative is the result. The enlarged negative gives facility for producing prints by any of the slow processes at any time without setting up special apparatus; but in spite of these advantages, the amateur will probably in most cases prefer the

Production of Enlarged Positives Direct.—Here the slow printing processes are almost out of court altogether. The writer has, however, produced enlargements of about four diameters on albumenised paper, with an exposure of between a week and a fortnight in the long days of July, and with less exposure on gelatino-citro-chloride paper; but these results must be looked upon as simply experiments, especially as the lack of permanency in albumenised paper makes it more unsuitable for large pictures than for small ones. A separate paper is to be devoted to the gelatino-bromide process, and, presuming that this is to include processes with the other haloid compounds of silver, none of these processes will be described here.

The Carbon Process is available where the enlargement is not great, say about two or three times, giving an exposure of about one-sixth of that judged necessary in the printing frame, and keeping in the dark about three days before development. The action of the light once set up continues in the dark, and at the end of that time is equivalent to a full exposure.

Dusting-on Process on Opal Glass.—A small transparency is first produced, and the enlargement made from this, the process

giving a picture of the same character as the original; that is, from a positive a positive will be produced. The plate is flooded with a sensitising solution similar to the following:

Dextrine	..	..	..	..	..	40	grs.
White sugar	..	..	..	..	..	50	"
Ammonium bichromate	..	..	..	..	..	20	"
Glycerine	..	..	..	..	..	3 to 5	drops.
Water	..	..	..	..	..	2	ozs.

The excess is drained off, and the plate dried in a warm room, or in a water oven, or carefully over a lamp. It is then exposed for a few minutes to the image from the transparency, after which finely powdered black-lead is very carefully brushed over it by means of a soft camel's-hair brush. The powder should adhere to those portions where the light has not acted, and if this be not the case, the brushing should be continued in a damper atmosphere, as that of a cellar. Local intensity may be given by very gentle breathing on parts as the brushing goes on. If, however, the black-lead shows the least tendency to attach itself to the whites of the picture, the plate should at once be removed to the drier atmosphere. In fact, success may be said to depend more on the management of the atmosphere than anything else, though it is very plain that the artistic appearance of the result depends much on the skill used in brushing in the powder. When the image is judged satisfactory, the plate is collodionised, washed in dilute hydrochloric acid, then in clear water, and dried.

Thin Transparencies on Glass, Backed with Paper.—Very pretty effects may be produced by making a very thin transparency on an ordinary gelatine plate, and fastening a sheet of paper in contact with the film. Ferrous oxalate by preference for development, as the image is blacker. The paper used for backing may be white or tinted, rough or smooth, and the effect further varied by working upon it with a pencil or crayons. This process has the advantage of giving the shadows a "juicy" black, instead of the dry washed-out appearance often so difficult to avoid with the gelatino-bromide papers. The effects may be further varied by choosing plate and developer so as to get a coloured image; or the deposit produced by ferrous oxalate may be modified very considerably in colour by uranium. After making the plate absolutely free from hypo—and too much pains cannot be taken for this—it is immersed in a solution containing 4 or 5 grs. per ounce of uranium nitrate, and a like quantity of potassium ferricyanide (*red prussiate of potash*), when in a few minutes it begins to get slightly brown in colour. According to the time it is left in, it will assume a chocolate brown to a bright red. The solution should be kept in motion continually, and when the most pleasing tint is obtained, the plate is immediately removed and washed in clean water. The effect may be removed, if considered unsatisfactory, by soaking in a weak solution of carbonate of soda followed by an alum bath if the edges show any sign of frilling.

Collodion Transfer Process.—This is closely akin to the foregoing. It is mentioned chiefly to make the list fairly complete, as it is impossible to describe it in detail in a short paragraph; and those amateurs who are familiar with collodion will need no information being given here, while those unfamiliar with it are certainly not recommended to begin their acquaintance with it by the production of enlarged pictures. Briefly, an enlarged positive is produced by collodion, and a sheet of gelatined paper pressed in contact with the film. On drying, the paper may be stripped from the glass, bringing the picture with it. Or the plate may be allowed to dry, and be then backed with a sheet of paper as described above.

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SHEFFIELD PHOTOGRAPHIC EXHIBITION.—Under the auspices of the Sheffield Photographic Society, an exhibition of photographic slides was given last week in aid of the building fund of the Public Hospital and Dispensary. The slides were mostly the work of members of the Society, the majority being of local interest, and were exhibited by means of a lantern belonging to Mr. W. D. Forsdike. Mr. B. J. Taylor presided, and there was a large attendance. During the exhibition the slides were described and commented upon by Mr. Alleyne Reynolds. The first series of photographs consisted of views in Sheffield, most of them being instantaneous street scenes. Following these were a number of pictures taken in the suburbs, and afterwards photographs of Derbyshire views were exhibited. The exhibition concluded with a number of miscellaneous views.

Our Contemporaries at Home and Abroad.

THE *Camera* contains articles on "Photographic Chemicals," "Exposure and Development," "The Salting and Fixing of Drawing and other Commercial Papers," "English Church Architecture as a Subject for Photography," etc.

L'*Amateur Photographe* (Paris) contains a most amusing article on "What it Cost to Photograph a Balloon," "Study of the Operations of Photography," "Photography and its Industrial Applications," "Practical Manipulations," "Photography of Interiors," etc.

The *British Journal of Photography*, in an article on "Large Direct Portraiture," says, "It must not for a moment be imagined that in this or in the previous article we deprecate the use of combination lenses for large portraiture, for we do not. Our object has been to protest against the employment of lenses of short focus for taking large direct portraits. It stands to reason that if a lens of certain focus is necessary to take a pleasing, say, cabinet portrait, a comparatively much shorter one must not be expected to yield large ones which are satisfactory. More especially does this obtain when it is considered that large lenses are not, and never can be, made so perfect as small ones; and, added to this, the unavoidable inferiority increases with the size of the instrument." Article: "Oxygen and Chlorate of Potash," "Celluloid and Electricity," "The American Eclipse Expedition at Cape Town," "The Silver Printing Bath," "Photography in an Age of Movement," "Eikonogen as a Developer in Practice" (concluded), "The Influence of Temperature on Photographic Manipulations," etc.

The *Photographic News*, in an article on "Some Relations between Fine Art and Photography" (Philip H. Newman), says, "Firstly, I have endeavoured to show that photography has exercised, and is exercising, for good or ill, an influence on fine art, and that this influence has not been altogether for good in the past, more especially as having occasioned an attention to detail to the prejudice of unity and breadth. Secondly, I express a confident belief that an increasing love of fragmentary studies by photography and painting is tending to narrow the scope of art generally. Thirdly, I insist that, in regard to Coleridge's definition of painting as being 'something between a thought and a thing,' the *thought* in this country is too often a minus quantity. Moreover, although we have seen that very earnest endeavours have been made from time to time to achieve a very high art ideal indeed with the camera, yet much carelessness and want of training, external to technique, have brought it into artistic disrepute, and made it very productive, in an artistic sense, of bad work. For this reason it behoves us to be more eclectic, not only for the sake of the future of photography, but for the sake of art itself, and it would be well were the photographic societies to offer more prizes for really artistic work, and obtain, where necessary, acknowledged artistic assistance in making the awards." Articles: "An Unsolved Problem in the History of Photography," "Vocation of an Amateur Photographer," "Reactions of Various Developers," "Toning with Metals of the Platinum Group," "A New Photo-Lithographic Transfer Paper," "Professor Piazzi Smyth on Figures in Photographs," "Ruskin on Beauty," "Flash Powder Explosions," etc.

The *Beacon* (Chicago), speaking of the "Photographer of the Future" says: "It would be impracticable to restore the system of apprenticeship which, so far as ordinary trades are concerned, in spite of all that is said and written of technical schools, is the only method by which trades can be properly taught, and if it were, the masters competent to teach are too few to meet the requirements. But, properly equipped and rightly managed, schools of photography could, we think, be made to answer the purpose. Such a school should contain all the appliances of an ordinary studio, facilities for enlarging and copying of all kinds; a suitably equipped chemical laboratory and lecture room, with accommodation for both theoretical and practical instruction; and models, specimens, and all necessary appliances for the proper teaching of the principles applicable to art." Articles: "A New Limelight," "Photographing the Eclipse," "Sensitiveness of Salts of Iron," "The Optical Lantern," "The Lights of Other Days," "How I Paint a Portrait," etc.

The *Photographic Times* (New York) contains articles on "Photo-zincography," "Long and Short Focus Lenses," and the "Silver Printing Bath," whilst amongst its shorter notes it gives the following, which may be found useful on some occasions: "We quote from the Journal of the French Photographic Society the following receipt for a pyrotechnic mixture, credited to the *Chemiker Zeitung*, which is said to make a light visible the distance of 100 kilometres in clear weather. The ingredients are as follows:

Magnesium powder	..	..	..	..	20 parts.
Nitrate of baryta	..	..	..	..	30 "
Flour of sulphur	..	..	..	..	4 "
Beef suet	..	..	..	..	7 "

Mix the different materials in the melted suet. This amount, moulded into a box of zinc, one-tenth of a metre in height and seven one-hundredths of a meter in diameter, will burn twenty seconds with a light equal to 20,000 candles. The weight of the whole is about a pound, and, as the magnesium amounts to about one-third of the weight, it will be easy to calculate the cost of this powerful illuminant."

The *American Lithographer and Printer*, in article on "Gelatin Plates for Photo-Mechanical Purposes," says, "In the case of reproductions from drawings and other line subjects, clearness, and especially vigour, is obtained more easily and with more certainty, without intensifying, than with collodion plates, if the following method, as recommended by Herr F. Wilde, be employed: The plate is exposed twice as long as would be required for ordinary photographs, and to the developing solution is added from the beginning the following iodo-bromide restrainer, in the proportion of 20 cc. to 25 cc. to each 200 cc. of developer.

SOLUTION I.

Iodine, sublimed	..	..	..	..	1 grm.
Alcohol	..	..	..	..	200 cc.

SOLUTION II.

Potassium bromide	..	..	..	..	14 grms.
Water	..	..	..	..	200 cc.

Solutions I. and II. are mixed, and the mixture is added to the developer in the above given proportion. By prolonged development negatives of such a vigour and density may be obtained as are very difficult and not always with equal certainty obtainable on wet collodion plates, even with subsequent intensification. If these directions are carefully observed, the gelatine dry plates are decidedly preferable to wet collodion plates for this special purpose." It also contains articles on "Litho-Photogravure" and "Stellar Photography."

Science Notes.

MESSRS. G. LUNGE and T. WIERNIK have re-determined the specific gravity of solutions of ammonia. They find that at a temperature of 59° F. the "liquor ammoniæ" of spec. grav. '880 contains 35½ per cent. of the true ammonia gas; at sp. gr. of '910 only 25 per cent.; and at '960, only 10 per cent. Moral—dilute your ammonia immediately after purchasing with an equal volume of water, and keep it in a bottle having a ground-glass stopper. Otherwise your "volatile alkali" (as ammonia has well been called) will speedily fly away, and your solution will be of only half the strength which you imagine it to be.

Professor Holden has recently improved the photographic apparatus attached to the famous Lick telescope in California. The plates now used are mostly 8 by 10 inches, and they are supported within the tube of the telescope, on a compound slide-rest, so that the image of any celestial object can be kept steady on the same part of the plate. It is found that the negatives of the moon can be studied with a microscope magnifying 570 diameters. "That is, it is practicable for an observer to sit in his study and to examine the lunar surface with a magnifying power of 570 diameters as often and as long as he pleases. Even more than this is true. Mr. Barnard has been kind enough to make positive enlargements on glass for me, which show the moon twice as large as in the principal focus. An eyepiece of 1 inch equivalent focus is not too high to examine some features of these enlargements (and as they are *positives*, they show the surface in its true light and colour). Thus it is practicable to see the lunar surface under excellent definition, and with a

power of more than 1,100 diameters, whenever one pleases and as long as one pleases."

"I have no hesitation in saying that a study of our moon negatives alone is capable of giving more information regarding the lunar surface than has been obtained by all the laborious years of observation by the most famous observers—Mädler, Lohrmann, Schmidt, and others now living."

Professor Holden offers a set of these "lunar negatives" to our Astronomical Society, "in the hope that some *lonely and athletic* student may be willing to devote the two or three years necessary to their thorough and exhaustive study." The present working staff at the Lick Observatory is unable to do more than produce the *materials* for such a study.

The British Association has appointed a Committee for the Collection of Geological Photographs. The Hon. Secretary is Mr. O. W. Jeffs, 12, Queen's Road, Rock Ferry, Cheshire. We recommend any of our readers who possess good photographs of rocks, etc., to send prints to Mr. Jeffs. Any aid that photography can render to science should be rendered most willingly, for mutual benefit must result.

Captain Abney will lecture at the Royal Institution upon "Colour, and its Chemical Action," on Saturdays, April 19th, 26th, and May 3rd. We have no doubt that valuable light will be thrown upon the subject of orthochromatic photography.

A meteorologist who has been studying the Greenwich observations of the weather for the past century states that a mild winter is customarily followed by a warm summer. If so, there is good hope for photographers in the coming season, for the winter now nearly over has been unusually mild—the month of January notably so.

It is not only when oxygen gas is stored under high pressure in steel cylinders that accidents may happen. It has frequently caused explosions during its preparation. The latest of these took place last month at Lexington, in Illinois, where Professor Jess, of the High School, was making the gas before his chemical class, using a piece of gas-pipe eight inches long and two inches in diameter as a retort. After placing the usual mixture of chlorate of potash and oxide of manganese in this primitive utensil, heat was applied. After two minutes the retort blew up like a bomb-shell, terribly injuring the Professor and several others who were nearest, while about twenty of the pupils were injured. The cause is believed to have been some mistake in the nature of the chemicals used. If, for example, powdered charcoal or sulphide of antimony be used in the place of the black oxide of manganese (which they much resemble in appearance), an explosion is certain. The moral is that the chemicals should always be tested first, by heating a little of the mixture on a fire-shovel or in a test-tube. If it gives off the oxygen gas quietly, all is right.

A Continental scientist has proposed an ingenious plan for obtaining that desideratum—the production of *stereoscopic effect* in the picture thrown on a screen by an optical lantern. He takes the two pictures produced by a stereoscopic camera and makes a lantern slide from each. The two slides are then placed one in each lantern of a biunial, and their joint images are carefully centred on the screen. The effect, so far, is simply to produce a confused picture, owing to the images overlapping. But now a piece of pure red glass is placed in one lantern, and a piece of pure green in the other. Still the double picture is visible on the screen. But now let the observer put on a pair of spectacles having a piece of red glass facing the one eye, and a piece of green glass facing the other; each eye then sees one image only (as in nature), *but the two images coalesce in the brain* and produce a stereoscopic effect.

One difficulty in this plan would be the procuring of glass of pure colours. Another, the tint of the resulting image. It occurs to us that yellow and blue glass might be preferable to red and green. The two former colours when combined give white; the two latter, purple.

F. G. S.

PHOTOGRAPHIC CLUB FOR BOYS.—Mr. H. J. Cunningham, of Braintree, writes us: "I am starting a small photographic club of working lads. It can easily be understood that the expense of apparatus is a very serious matter. Will you allow me to appeal to such of your readers as may have anything that they do not want, and likely to be of use? We should be very grateful for printing frames, dishes, measuring glasses, or, indeed, anything. I will thankfully acknowledge the receipt of anything that may be sent."

Societies' Meetings.

BIRKENHEAD PHOT. SOC:—At the last ordinary meeting a discussion took place on "Hand Cameras," and Mr. E. M. Tunstall gave his lecture on "A Tour through Normandy," illustrated by views taken by the lecturer.

BRECHIN PHOT. ASSOC:—The above Association gave a public exhibition on the 5th inst. The hall was crowded in every part by a representative and appreciative audience. After a few remarks by the President (Mr. W. Shaw Adamson, of Careston), slides were shown from the Pacific Coast Amateur Photographic Association, Glasgow and West of Scotland Amateur Photographic Association, and Lantern Section of Paisley Photographic Association. The local association was well represented by over 100 slides, chiefly of local scenes and characters. Mr. J. C. Middleton, Curator, worked the lantern, and Mr. R. A. Scott, M.A., Vice-President, described the slides as they were thrown on the screen.

CROYDON CAMERA CLUB.—The first general meeting of this promising Society was held at the Public Hall, Croydon, on Monday, 10th March, Mr. H. Maclean in the chair, and was well attended by a large proportion of the members. The rules as drafted by the *pro tem.* Committee were discussed, and with slight alteration adopted. The election of officers and Council was then proceeded with. On the recommendation of the *pro tem.* Committee, the meeting, after discussion, decided that all the officers, as well as the Council, should consist of *bona fide* working members of the Society, and that no outsiders, however eminent, socially or photographically, should be entitled to take part in the management. Eventually the following gentlemen were elected. President, H. Maclean, F.G.S.; Treasurer, Edgar F. Smither; Hon. Secretary (*pro tem.*) L. De Clercq; Assistant Secretary (*pro tem.*), A. Underhill; Committee, E. F. Blow, W. T. Barker, G. R. White, A. E. Isaacs, W. J. Bishop, and M. Plimmer. During the evening various prints were shown by the members, which indicate that the Society has in its ranks many skilful workers. The next meeting will be on Monday, 24th March, at Public Hall, Croydon, when amongst other attractions will be an exhibition of hand cameras, lantern slides, etc. Gentlemen desiring to join the Club should send in their names to either of the Secretaries or the President, H. Maclean, Birdhurst Road, Croydon.

EAST DULWICH AND PECKHAM PHOT. SOC:—On Friday the 7th inst., Mr. J. W. Edwards presided at the ordinary meeting, when the subject for discussion was "Hand Cameras." A vest camera of Stirn, a small camera by Mr. Stowell, and one of Fallofield's Facile cameras were shown by members. Mr. R. Abrahams also attended and brought with him his now well-known Ideal and Victor cameras, and thoroughly explained the working. The Ideal particularly took the fancy of the members. Mr. Abrahams also showed a new walking-stick stand for hand-cameras, which his firm are just introducing. It is made entirely of metal, and though light is very rigid, has a ball and socket joint at top, and is a very natty and compact stand. The proceedings closed in the usual manner.

GLASGOW PHOT. ASSOC:—The fifth general meeting of the session was held on the 6th inst. in their rooms, 207, Bath Street, Mr. Wm. Lang, junior, F.C.S., President, in the chair. A paper on the "Sizes of Photographic Plates and Papers" was read by Mr. J. Craig Annan, Hon. Secretary. Several photographic novelties were exhibited by Mr. James McGhie. A portrait taken by an automatic apparatus was shown to members. Mr. P. Falconer afterwards gave a communication. A neglected collodion dry-plate process, and transparencies obtained by the method referred to, were shown by means of the Society's lantern.

HOLBORN CAMERA CLUB.—On Friday, March 7th, about thirty members assembled at the club-room. Mr. Chang presented the club with framed prints and lantern-slides from the flash-light exposures made by him at the club exhibition. The slides were then shown on the screen, Mr. Smith kindly officiating at the lantern. Next Friday, "Enlarging from Small Negatives."

LEWES PHOT. SOC:—An ordinary meeting was held on the 4th inst., the President in the chair. Two new members were elected. A vote of condolence with the widow and family of the late Mr. Simeon Norman was passed. The slides sent in to the first quarterly competition were passed through the lantern by the President, assisted by the Vice-President, and the awards of the

Judges were as follows:—Class 1, Landscape, Mr. A. H. Webbing; Class 2, Architecture, Mr. Percy Morris; Class 3, Any other subject, Mr. G. E. Constable. There were fourteen sets sent in from seven competitors, and the work was of very good quality. A special general meeting was to be held on March 18th, to consider the question of carrying out a photographic survey of the district, and a paper on the subject read by the Hon. Secretary. On March 18th the *Photography* prize slides will be exhibited at the National Schools, when members and their friends are specially invited. At the next ordinary meeting, to be held on April 1st, Mr. E. Miller will open the discussion on "Pin-hole Photography."

NORTH LONDON PHOT. SOC.—The annual exhibition of photographs was held on the 4th inst., at Northampton House, St. Paul's Road, Highbury; a conversation was held at the same time. There was a large amount of members' work shown, and also the *AMATEUR PHOTOGRAPHER* "Enlargement" Competition prints, and specimens by Messrs. Morgan and Kidd and the Britannia Company. The President, Mr. Traill Taylor, made a few appropriate remarks, and the vocal and musical portions of the entertainment were then gone through. At the conclusion a number of slides were thrown on to the screen. The next meeting will be held on the 18th inst., at Myddelton Hall, Upper Street; subject, "Printing on Alpha and Bromide Papers."

OXFORD PHOT. SOC.—On the 6th inst. the members assembled to hear a short lecture on "Stripping Films," by the Rev. W. H. Price, and the process of developing and stripping a film was practically demonstrated, the merits of stripping and non-stripping films were also compared, and specimens were exhibited which had been sent by the makers, Messrs. Eastman, the Stereoscopic Company (Carbutt's), and Messrs. Fry. The verdict seemed to be in favour of the stripping-film when compared with the celluloid or non-stripping, on account of an appearance of grain in the latter, but the process of stripping appears to involve so much time and trouble, that the members seemed to be unanimous in deciding to remain true to the old love. A hearty vote of thanks was, however, accorded to the lecturer for his very interesting and instructive description of the process. The flash-light pictures taken at the last meeting did not turn out a brilliant success; some of the negatives were fair, but showed that more light was wanted.

PEOPLE'S PALACE PHOT. CLUB.—At an ordinary meeting held on Friday, the 7th inst., Mr. Beckett, sen., in the chair, Mr. Hawkins gave a demonstration of the "Wet Plate Process." After briefly tracing the history of photography from the time of Daguerre, whose process he also described, he proceeded to make some transparencies, fully describing the *modus operandi* in a very humorous manner. Mr. Downing also brought up an old-fashioned camera which had a peculiar sliding-back arrangement.

PHOTOGRAPHIC SOCIETY OF IRELAND.—A few evenings ago the members of this society had a practical demonstration on "The Working of Lanterns," given them by Mr. Jas. Carson, C.E. He very carefully introduced the subject by showing the utility of the several parts of the lanterns and their accessories. The minuteness with which the demonstrator went into the subject gave much satisfaction, even to some who had "worked lanterns" for some time. Mr. Carson was thanked by the members present, and desired to place the matter on paper to be read at some ordinary meeting of the society. On March 3rd Mr. J. H. Hargrave, C.E., gave a very useful lecture, taking for his subject "Lantern Slides, and How to Make Them." He gave much information as to his experience with plates by several makers, first dividing these plates into two classes, chloride and bromide. The developing he favoured was pyro. He devoted time to demonstrating the mounting of slides, and referred to various masks, speaking highly of Wormald's, which are coloured on one side and white on the obverse side. Dr. J. Alfred Scott added remarks as to intensification, showing a distinct preference for Monkhoven's. He exhibited a printing frame made by himself, for use with quarter-plates in contact lantern exposure. It was so constructed as to admit so much of the lantern plate projecting over any part of the edge of the quarter-plate as might be covered by a mask, when it would be advantageous to include or exclude a part of the subject on the quarter-plate, as the case might be. After other remarks the meeting terminated with a vote of thanks.

READING AM. PHOT. SOC.—The subject of the society's usual monthly meeting held on the 6th inst., at the Science and Art

Schools lecture-room, was a demonstration of Enlarging, the first of a series of demonstrations arranged to be held during the season. A number of 5 by 4 negatives were enlarged upon Ilford 12 by 10 bromide paper by the aid of a lantern lent by Mr. Chas. Stephens, Vice-President, illuminated with the albo-carbon light, and afterwards successfully developed by Mr. Spencer. A very convenient ruby lamp, to burn ordinary carriage candles (Thomas'), was lent by Mr. Wyly. The Secretary, Mr. Phillips, showed and explained the Caldwell instantaneous shutter, fitted to a R. R. lens with iris diaphragm (kindly lent by Mr. Wray), which was much admired; also calling attention to specimens of Greene's opal cards, and several other novelties, specimen publications, etc. Mr. Wheeler brought several prints on Alpha paper, showing the various tones to be obtained by this process. At the annual general meeting held a short time since, Dr. Richardson presiding, a capital balance-sheet was presented, showing a substantial balance in hand. A short report upon the past doings of the society was also read, which showed that there had been held ten monthly meetings and three summer excursions, also that two successful exhibitions had been held in connection with the Science and Art Schools.

SHEFFIELD PHOT. SOC.—The usual monthly meeting was held on the 4th inst., the President, Mr. B. J. Taylor, in the chair. The routine business and election of three new members being completed, the judges' award in lantern competition for the best series of six slides, was announced as follows:—In the opinion of the judges no set of slides were of sufficient merit to take the first prize; the same was, therefore, withheld. The second was awarded to Mr. W. T. Furniss, who also secured the prize for the best slide in the competition. The whole of the slides were afterwards passed through the lantern. Mr. G. Bromley gave an interesting and complete demonstration and lecture on the new benzoline saturator as an adjunct to the optical lantern.

WOLVERHAMPTON AM. PHOT. SOC.—The usual monthly meeting of this Society was held on the 4th inst. Major R. D. D. Hay, Vice-President, occupied the chair. Mr. Barnett, jun., was elected as a member. Mr. G. Austin also was proposed as a member of the Society. Major Hay announced that the second annual meeting of the Society would be held on March 18th. The *Photography* lantern slides were then put through the lantern by Mr. W. B. Mansell, the views being described as they appeared. Slides were also shown by Messrs. J. Stokes and W. Cottrill, etc. Mr. J. Forysth exhibited some fine prints of Scotch scenery, taken during his holidays. Mr. J. Gale also showed two capital enlargements of groups.

YORKSHIRE PHILOSOPHICAL SOC. (PHOTO. SECTION).—The usual monthly meeting was held on the 5th inst. The Hon. Sec. (Mr. H. R. Moiser) exhibited some negatives taken on the new Eastman transparent flexible film, as used in one of their roll-holders. The Hon. Sec. then exhibited about 100 transparencies by the lantern, copies of photographs taken from paintings by the old masters. To the members present these slides were of especial interest, as showing the particular qualities of four commercial brands of plates—Thomas', Mawson's, Fry's, and the Ilford Alpha plates.

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 "Lippincott's" for March keeps up its interest, and the story, "Two Soldiers," by Captain Charles King, is well written. "The Elixir of Life" and "A Dead Man's Diary" are continued.

CORRECTION.—The Hon. J. G. P. Vereker writes: "There is a clerical error in my reply to Query 3492, 'Test Papers'; it should read, 'Brazil wood paper turns from red to yellow in hydrofluoric acid,' not 'hydrochloric' as printed."

"HOME PORTRAITURE" NUMBER.—Mr. A. Stieglitz writes from Berlin: "Have received the 'Home Portraiture' number of the *AMATEUR PHOTOGRAPHER* this morning. Please to accept my congratulations for the same, as it is undoubtedly a step forward in the right direction. The reproduction of my 'Meditation' is most excellent. I am greatly pleased with it."

HANDY BAGS FOR CAMERAS, ETC.—Messrs. J. A. Jacobs and Co., of 12, Chapel Street, E.C., have submitted to us for inspection a very capably made bag which will take camera, three dark slides, box of plates, lenses, four-fold tripod, and the other odd things that make up a photographer's kit. These bags are of very handy shape, and when seen we feel sure there will be a large call for them. We do not know if Messrs. Jacobs have yet arranged to put them on the market.

To Correspondents.

THE insertion of **QUERIES** and **ANSWERS** is attended with much labour, and it is requested that the questions asked and the answers given shall be short and to the point. No charge is made.

All communications for the columns are to be addressed to The Editor, "Amateur Photographer," 1, Creed Lane, Ludgate Hill, London, E.C.

RULES

1. Write clearly and distinctly on one side of the paper only.
2. Write each Query or answer on a separate sheet of paper.
3. Write the name and address legibly on the back of each communication, and sign all Queries and Answers with name or *nom de plume*.
4. All matters for these columns MUST be received by TUESDAY MORNING'S POST.
5. The Editors do not undertake to answer questions by post.
6. In answering Queries correspondents are requested to mention, in every instance, the number and full title of the query referred to.

QUERIES.

3559. **France and Italy.**—Can anyone inform me whether any permit for photographing in France or Italy is required, and whether there is any trouble at the custom houses with plates, etc.?—A. B. PRICE.

3560. **Brighton.**—Is this place good for Instanto work, and what plates for seascapes?—F. J. T.

3561. **Negative Varnish.**—I have been trying to make some negative varnish, but cannot get white shellac to dissolve. Can any reader tell me the reason?—RALEIGH.

3562. **Hand-Camera.**—Can anyone tell me which is the best hand-camera, the Ideal or the Victor? And would they recommend either of these in preference to any other hand-camera at the same price and size?—S. R.

3563. **Lens.**—Will some one kindly inform me whether a Ross' Rectigraph lens is good for groups, views, and architecture, and oblige?—FOREIGNER.

3564. **Mountant.**—I should be glad to know whether ordinary commercial gum has any detrimental effect on bromide prints when used for mounting them. Also whether pure gum arabic mucilage is a suitable mountant for silver prints. If not, will one of your readers give me a receipt for a perfectly harmless mountant that will keep indefinitely, and which can be used without requiring to be heated?—LIMPET.

3565. **Pizzighelli Paper.**—Several acquaintances have told me that this paper requires to be steamed before putting behind negative, and that it often stains the negative permanently. Is there no way of preventing this? If not, I should be afraid to try it.—STAINS.

3566. **Toning, etc.**—(1) Can any reader inform me whether good tones can be produced with the acetate of lead toning and fixing bath; if so, are the prints as permanent as those toned with gold? (2) How is an adapter or second front used?—X.

3567. **Enlarging Lantern.**—I want to get a lantern with which I can make enlargements, and also show lantern slides. Will anyone tell me of a good one for this purpose? I rather incline towards Hughes' Pamphengos enlarging lanterns, but would it be possible to use one of them for ordinary lantern slides as well? The lantern must not cost more than £3 or £7, preferably less, half-plate size.—R. A. R. BENNETT.

3568. **Instantaneous Work.**—Using a half-plate Instantograph and the shutter supplied with it, which of the three kinds of Ilford plates must I use for ordinary instantaneous work? It is necessary to use the special (red label)?—F. G. K.

3569. **Double Dark Slide.**—I am hesitating as to which form of double dark slide to adopt for ordinary out-door work—the solid or the book form—and should, therefore, be glad to ascertain from the experience of others which sort is to be preferred, and also makers' names.—DOUBTFUL.

3570. **Lantern Objectives.**—I am informed that a disc 21 feet in diameter, thrown on a screen by a lantern objective of 6 inch focus, and working at $f/4$ would be as brightly illuminated as a disc of 15 feet diameter when thrown by an objective of 12 inch focus, also working at $f/4$. Will some gentleman with a knowledge of optics and light kindly say if I have been correctly informed?—MAGIC LANTERN.

3571. **Some Points about Lens.**—Can any of your

numerous readers kindly give me some information on the following: (1) Length of focus (what is meant by, and how found). (2) Use of stops. (3) Most possible exposure to give, without moving objects being blurred (with Lancaster's R.R. lens). The majority of text books on the above subjects treat the matter in such scientific language that many beginners like myself are not able to follow.—N. M. H.

3572. **Hand Camera.**—I have a Lancaster quarter plate Instantograph camera, with the usual lens, complete, £2 2s.; will some reader kindly inform me if I could put the camera into a box and use it as a hand or detective camera?—R. N.

3573. **Lantern Slides.**—Is it advisable to varnish lantern-slides before binding them together? Or are they better left untouched? Should like the opinion of those interested in this kind of work.—LIMELIGHT.

3574. **Hand Camera and Lens.**—(1) Will some kind reader recommend a first-rate fixed-focus hand camera? Is the "plate dropping" style to be relied on? Are the plates in perfect register by so changing? (2) Is Taylor's detective lens the best for fixed-focus cameras?—CARLEBAD.

3575. **Hiring Apparatus.**—Will some reader kindly inform me where photographic apparatus can be obtained for which weekly payments are taken, and oblige.—POOR ONE.

QUERIES UNANSWERED.

Jan. 10th.—Nos. 3353, 3356, 3367.

Feb. 7th.—Nos. 3417, 3430, 3435.

14th.—Nos. 3437, 3441, 3452, 3454, 3457.

21st.—Nos. 3471, 3472, 3476, 3478, 3487, 3491, 3493, 3494.

28th.—Nos. 3517, 3518.

Mar. 7th.—Nos. 3528, 3529, 3530, 3531, 3542, 3544, 3551, 3554, 3555, 3556, 3557.

ANSWERS.

3466. **Dallmeyer's Rapid Landscape Lens** is designed for views of distant objects, mountain scenery, etc.; is undoubtedly one of the best obtainable for this special line of work, but it will not take the place of the rapid rectilinear, which is the best all-round lens to possess. Views, buildings, and groups are taken equally well with it. Another feature of this class of lens is that it may be taken apart, and the front or back combination used by itself for views, as a single long-focus lens.—T. S. MAYNE.

3469. **Photographing in Venice.**—No restriction in the streets, on the Canal, or bridges. Concerning interiors, however, you will require to judiciously dispense small gratuities. You must expect some degree of inconvenience with the populace looking on, if you remain too long in one spot with your camera set up. A short-focus wide-angle lens for narrow streets or confined interiors will be requisite. No use anything over the 9 inch for half-plate; but I fancy you will find the 7 inch suit you better.—T. S. MAYNE.

3469. **Place's Shutter.**—Seven and sixpence. I obtained mine from Mr. Wm. Rogers, optician, Cook Street, Liverpool.—T. S. MAYNE.

3477. **Cockling.**—If you do not desire to paste the photographs in, instead of slipping the corners through slits—obtain the small circular gum tickets about size of sixpence, plain white, used by drapers—the gum is very strong—place one at each corner of your picture, a small portion on the corner of the picture, and the larger portion on the page of your book. I have an album of half-plate Ober-netter prints in use for past three years, and find it quite perfect. It has this advantage, at any rate: you can remove a picture without disfigurement, it also preserves the enamel perfectly.—T. S. MAYNE.

3484. **Portable Studio.**—See Cassell's penny weekly, *Work*, No. 50, March 1st; you will find some useful information, sketch, and measurements on pages 796 and 798.—T. S. MAYNE.

3486. **Lens.**—The half-plate will be the best, of course, presuming you are not restricted in space. With quarter-plate, distance from sitter will be about 12 ft., with half-plate about 18 ft.—T. S. MAYNE.

3489. **Flashlight.**—Rather dangerous experimenting with compounds you are not familiar with. Read an exhaustive paper on "Flash Powder Explosions," in *Photographic News*, No. 1644, March 7th. Regarding lamps, see one made by Sands and Hunter; it is not expensive, but is first-rate.—T. S. MAYNE.

3490. **Enamelling.**—My experience with the enamelling plates was like your own. I returned to the plate glass, which, besides giving a much better result, allows you to see when you have perfect contact and no air-bells. Of course, the glass must be perfectly clean and properly prepared, as directed.—T. S. MAYNE.

3495. **Rapid Rectigraph** is a lens of the doublet or rapid rectilinear type. Rapid symmetrical is also another, but practically the same combination, being sold by the different makers under the various titles, but all possessing the same general features—that is, lenses so corrected that they are capable of

giving a fair average focus to objects in different planes. This capacity is called "depth of focus," which differs in the various forms of lenses—the old-fashioned portrait lenses having least of it, the rectilinear the most.—T. S. MAYNE.

3502. **Aptus Hand Camera.**—The Ross 6-in. rapid symmetrical lens is made specially to suit 5 by 4, and nothing but praise can be accorded to it. I have used it for a great variety of subjects.—T. S. MAYNE.

3505. **Astronomical Lantern Slides.**—Call at York and Sons', 87, Lancaster Road, Notting Hill; you will get everything you require in the above or any scientific class.—T. S. MAYNE.

3508. **Developer.**—If you are satisfied with hydro-quinone developer for negatives, Thomas's two-bottle solutions, in neat safe case for travelling, should suit you. For negatives, dilute both to double quantity, that is, for, say, 2 ounces of each, mix four ounces additional water; but for transparencies, full strength.—T. S. MAYNE.

3513. **Hand-Camera.**—If you are in London, go and see the Ideal camera at Abraham's, or visit the Crystal Palace Exhibition and choose for yourself.—E.

3514. **Detective Camera, How to Make.**—Dimensions, etc., too intricate for this column. For answer to part of your inquiry, see 3467, "Oxide's" answer, *AMATEUR PHOTOGRAPHER*, February 28th. I would advise you to have a separate case to sling over shoulder and contain the six dark-slides, so keeping the box-camera in smallest possible bounds. The term "fixed focus" is misleading. Your Optimus is an excellent lens, but neither it nor any other lens ever made will take objects in *exact* focus 10 ft. off and 30 ft. off without moving the position of the lens. Consult an excellent tabular diagram in *Journal*, 1556, February 28th.—T. S. MAYNE.

3521. **Lancaster's Silver Ring Lens.**—Reliable. Yes; no doubt will fit same flange as their other lenses of similar size. From experience I know the landscape and wide-angle series fit same flanges.—T. S. MAYNE.

3524. **Euryscope.**—This is the highest class lens made by Perken and Rayment (and their goods are all reliable); it is of the R.R. type, but working at $f/6$. The regular R.R. series works only at $f/8$. Better hunt up "British Journal," August 12th, 1887; you will find an exhaustive report on Optimus Euryscope therein, by J. Traill Taylor.—T. S. MAYNE.

3526. **Posing.**—Obtain the latest Special, *AMATEUR HOME PORTRAITURE*, just out. You will see in it a reproduction, No. 14, page 14, a very fairly composed group taken out-of-doors with a hedge for background; its title is "An Indian Child's Supporters," taken by a lady amateur, Miss A. Riley, Kendal, a beginner—this will serve you as a model. Another excellently grouped composition on page 18, entitled "Afternoon Tea," No. 22.—T. S. MAYNE.

3527. **Micro-photography.**—In the first place, let me call the attention of the querist to the fact that what he evidently wants is information re photo-micrography, and not micro-photography. It is as well to distinguish between these, as they are totally different processes. With regard to the exposure required, this of course varies considerably with the nature of light employed, colour of subject, objective used, and extension of camera. As a rough guide for exposure, I give one or two extracts from my note-book. (1) Subject, wasp's head; 1 in. objective; extension of camera, 8 ins.; plate, Ilford ordinary; light, $\frac{1}{2}$ in. paraffin lamp; exposure, 4 secs.; colour, light brown; result, good. (2) Subject, gnat's head; $\frac{1}{2}$ in. objective; extension of camera, 6 ins.; plate and light as above; exposure, 20 secs.; colour, brown; result, good. (3) Subject, fly's foot; $\frac{1}{2}$ in. objective; extension of camera, 2 ins.; plate and light as above; exposure, 10 secs.; colour, brown; result, under-exposed; 20 secs. would have been better. It is best to use two condensers, one large one close to light, and a smaller one for focusing image of larger one on the object. I am afraid that I have already trespassed too much on our Editor's space, so if you wish further information, write to me direct.—LENS (address with Editors).

3527. **Micro-photography.**—It is impossible to give a complete answer to "Micro's" query about exposure, as so much depends on the source of light, angular aperture of objectives, and objects to be photographed. The only guide is experience; photograph with an inch objective an object such as proboscis of blowfly, giving, say, a minute's exposure, and from that work till a satisfactory negative is got; then using this as a standard negative, expose other subjects accordingly. I believe, for these purposes of comparison, Warnerke's sensometer tablet has been used, and no doubt, would prove convenient. With daylight and Abbe's condenser, 1 in. (16 $\frac{1}{2}$), Chapman's plate (slow), and magnification 32, I have got a good dense negative of section of pepper in a minute; and, perhaps, the following from Davis' "Practical Microscopy" may be useful:—Distance of plate (Mawson and Swan's 15 times) from object, 24 ins.; lamp, ordinary paraffin bull's-eye, 3 in. focus condenser; 1-in. objective, proboscis of blowfly, 70 secs.; $\frac{1}{2}$ in. glass crystal, 60 secs.; $\frac{1}{4}$ in. section of deal, 7 mins. The ordinary microscopical lamp flames are rather small for this work, and a wide-wick common lamp would be handier. As for blue glass, it would no

doubt reduce the power of the light, and possibly give softer pictures, but, on the other hand, by cutting off the yellow rays, might enable one to focus better for the photographic rays.—J. G. P. VEREKER.

3532. Lantern-Slide Making.—Hepworth's "Book of the Lantern," published by Hazell, Watson, and Viney, Ltd. (publishers of the AMATEUR PHOTOGRAPHER). My experience favours Mawson's plates for transparencies, developed with Thomas' formula, full strength.—T. S. MAYNE.

3533. Over Exposed Plate.—"Raga" should use less of No. 2 if he knows it is over-exposed previously to developing; but if only discovered during the process he should rapidly pick out the plate and wash it, and before proceeding with development either make up a fresh solution containing half the quantity of No. 2, or else add some bromide solution to the developer previously used.—SUCCESS.

3533. Over Exposed Plates.—Try bleaching with mercuric chloride (usual intensification formula), wash thoroughly, then re-develop with your own hydroquinone formula; wash well again.—T. S. MAYNE.

3533. Over-Exposed Plate.—"Raga" might try reducing with hypo and ferridcyanide (see answer to 3545) till the shadows were nearly transparent, then bleach with mercury, and blacken with old hydroquinone developer, repeating bleaching and blackening if necessary.—GREENWOOD.

3533. Over-Exposed Plate.—The best thing is to intensify with the ordinary intensifier.—W. F. JONES.

3534. Eikonogen Developer.—Try Warnerke's—
Sulphite soda... .. 40 parts.
Distilled boiling water ... 100 "
Eikonogen 20 "
Caustic potash 20 "

Use 1 part to 3 of water.—W. F. JONES.

3534. Eikonogen Developer.—"Cleek" could not do better than use an eikonogen developer sold by Mr. Briggs, 21, Cheapside, Lancaster. Eastman films are extremely sensitive, and therefore, "Cleek" had better place a piece of deep ruby glass in front of his lamp during development, and take care that no direct light falls on the film until the process has advanced considerably. The extra ruby glass can then be removed, as the film will now be much less sensitive.—SUCCESS.

3534. Eikonogen Developer.—If "Cleek" is a London resident, no doubt Editor of AMATEUR PHOTOGRAPHER will allow him to read p. 159, October, 1889. American Amateur Photographer, which contains an excellent paper, by F. C. Beach, a high authority, on merits of this developer, for the special purpose "Cleek" requires; it is too long to reproduce in this column. If not a resident in London, send me address, and I will lend you my copy.—T. S. MAYNE (address with Editor).

3534. Eikonogen Developer.—I have used the following, which was given in the AMATEUR PHOTOGRAPHER on January 31st of this year, with good results, and is by Dr. Piffard, of America. The American quart is equal to 32 ozs. English measure.

No. 1.	
Water...	1 quart
Sulphite soda	2 ozs. (avd.)
Eikonogen	1 oz.
Bromide potassium	8 grs.

No. 2.	
Carbonate potash	1 oz.
Water... ..	8 ozs.

Use No. 1, 1 oz.; No. 2, 1 drachm.—CODBECK.

3534. Eikonogen Developer.—I am using Eastman transparent film in a detective camera, and find the best developer to be Jumeaux' single solution eikonogen developer. It is very simple, and I use it according to direction. I place film in dish with developer, cover with a card so as to keep the light from the film, and leave it until sufficient density is obtained. The films must be allowed to get very dense, as they look rather deceptive; in fact, you can hardly get them too dense. The negatives are full of detail, and give splendid bromide prints.—J. A. H.

3534. Eikonogen Developer.—An improved Eikonogen developer, made from an entirely new formula, called Jumeaux single-solution developer, is, in my opinion, the very best in the market for Eastman's celluloid films. It never produces any stains, and can be obtained in powder or solution from W. Briggs, 21, Cheapside, Lancaster. Vide AMATEUR PHOTOGRAPHER, November 29th and December 27th, in the latter p. 430.—F. L. A.

3535. Films, Exposing.—If "R. M.'s" carriers have a rabbit on which the plates (or films) rest, I would suggest his trying a piece of stiff cardboard backing, such as a mount. I find such works admirably with $\frac{7}{8}$ by 5 Carbutt or Fry films. Eastman are, I believe, much more difficult, being thinner.—GREENWOOD.

3535. Films, Exposing.—The best and most satisfactory mode of holding films in an ordinary dark slide is as follows:—Procure some stout cardboard, and cut two pieces, so that they fit firmly inside dark slide, then, when you put films in dark slide, back each with the cardboard, which, by the way, should be blacked, and you will find the films lie perfectly flat. These cards also will answer the pur-

pose as carriers for smaller films, by drawing the required sizes of the smaller films on the card with a pencil equidistant from their (cards) centres, and about $\frac{1}{4}$ in. from each corner of these rectangles, to make a slit at an angle of 45 degrees from the sides, so as to insert corners of films.—H. G. GORDON.

3533. Madeira.—There are at least two professional photographers in Funchal, Madeira, viz., A. Camacho, Praça da Constituição, and another at 21, Rua de S. Francisco. The former allows amateurs to use his dark-room, and I have no doubt would sell them plates and chemicals. I can give "Langside" the address of my brother, who is in the Canary Islands, but who has photographed in Madeira, and I am sure he will give him any information he can as to exposure, etc. He would receive a reply in about a fortnight.—LEON (address with Editors).

3538. Madeira.—One of my neighbours spent several months there; advises taking out your own stock of plates and chemicals. Exposure: provide yourself with shutter, or use $f/32$, with cap, for half-plate; smaller stop if whole-plate.—T. S. MAYNE.

3533. Madeira.—Write to Mr. Reid, Carmo Hotel, Funchal. He has a dark-room and every convenience for amateurs.—TRAVELLER.

3537. Isle of Wight.—A harvest for the camera. Carisbrook, Cowes, Ventnor, Ryde, Shanklin Chine, Blackgang, etc. Good, cheap, and comfortable hotel, Raynor's Temperance Hotel, Ventnor. Go out on Baker's char-a-banc, which calls every day at this hotel, and take your camera. This is what I did.—W. F. JONES.

3538. Additions to Lenses.—The concave lenses are called "concave optics, uncut," and are of about $1\frac{1}{2}$ in. diameter. They can be obtained at most jewellers' and opticians' for about 6d. each. The most useful are Nos. 6, 7, 8, and 9. Probably No. 7 would suit "Photo-phonos," and he must note that the higher the number the more the focus is lengthened. I attached mine to a kind of card pill-box lid large enough to just fit the lens tube. Remove the back lens and insert this close to the diaphragm, then replace back lens. The stops can be used as heretofore. Probably some jeweller in your locality will allow you to try one or two before purchasing, so as to get one to suit your apparatus. Placing one of these concaves behind a view lens has the effect (besides lengthening the focus) of lengthening also the marginal rays more than the central ones, and giving a flat field with great depth of focus.—W. LONDON.

3539. Precipitation of Bromide Paper Developer.—Hot water will dissolve much more of most soluble salts than cold. Hence, if solution be thoroughly saturated when hot, some of the salt must crystallise out as it cools. This is just as it should be, with the solutions of which the ferrous oxalate developer is composed. If there is a precipitate on mixing the iron and the potash, it means that iron is in excess, or that the potash has been poured into the iron, instead of vice versa. Remedy obvious.—GREENWOOD.

3539. Precipitation of Bromide Paper Developer.—Your solutions are quite right. They should be saturated. The latter part of your query is vague.—E.

3539. Precipitation of Bromide Paper Developer.—If I rightly understand your query, you need not trouble about the precipitation of your chemicals. The reason is this: the amount of salt any definite quantity of water will take up depends on the temperature of the water. If you use hot water, and the solutions are then fully saturated, on cooling some of the potash or iron will naturally be deposited at the bottom, because the water will not hold so much when cold as when hot. Unless this deposition happens, you can hardly be sure that your solutions are saturated, which is desirable in the case of this developer. The temperature of the solutions at this time of year should be about 60 degs. F.—F. W. L.

3540. Hand Camera.—Yes, Fallowfield's is well spoken of, but you should also see, at 43, Charterhouse Square, the Photo Supply Association Stores, Swinden and Earp's new patent, medalled by the Photographic Society of Great Britain, which is a very high honour. It holds twenty plates, no double backs, no tin sheaths; price £7 complete.—T. S. MAYNE.

3540. Hand Camera.—You cannot do better than get the "Ideal" detective camera of Abraham, 81, Aldersgate Street. Is more compact than Fallowfield's, better made, and has, moreover, a time and instantaneous shutter. Cost about £5 5s.—W. F. JONES.

3540. Hand Camera.—Can recommend "Colonist" to get the new Kodak from the Eastman Company, 115, Oxford Street, London, W. The size of the pictures is $3\frac{1}{4}$ in. circular, and can carry 100 negatives. It has also one view-finder, three stops, and a self-capping shutter, and costs only £7.—F. L. A.

3541. Bromide Paper.—To vignette bromide prints by gas-light cut an oval aperture in a piece of stiff cardboard, hold the printing frame in left hand, and with right hand gently rotate the card about half an inch in front of the negative.—O. S.

3541. Bromide Paper.—Diffuse gaslight by ground glass or tracing paper. Fasten vignetting mask on outside of printing frame, say 1 in.

or so from glass. Keep frame moving during exposure, which must, of course, be much longer than with naked light.—GREENWOOD.

3541. Bromide Paper.—Try using a card with an opening cut in it of the desired shape, over which is pasted tissue paper. This will diffuse the light. I have found that moving the printing frame to and from the light during the time of exposure will soften the outline very much.—F. W. L.

3543. Lens for Hand Camera.—See 3514. Fixed focus is misleading. You must have an arrangement to move the lens according to distance you desire to be to obtain your pictures, except you fix your lens at zero, and take nothing nearer, say, than 40 or 50 feet, as the case may be. The Instantograph series is not quick enough for rapidly moving objects, it is only a single-view lens. H. J. Nichols, Williamson Street, Liverpool, has a series of very good French lenses, R.R. type, called the "Eureka." I have several friends using the same in hand-cameras, price is very moderate.—T. S. MAYNE.

3543. Lens for Hand Camera.—The one you propose would be very slow, and only suitable for bright weather. If you could afford about £2, I should advise your consulting Chambers, Featherstone Buildings, Holborn, W.C.—E.

3543. Lens for Hand Camera.—Get a Taylor lens—W. F. JONES.

3543. Lens for Hand Camera.—After perusing several catalogues, the "Almanack," and other advertisements, I decided on Lancaster's Instantograph lens for a hand-camera as suiting both purse and camera. I have tried it, and find that answers admirably; in fact, I would not change hand-camera now for some advertised at £7.—J. A. H.

3543. Lens for Hand Camera.—In reply to "One in a Fix," as he would probably wish to enlarge his negatives, he ought to get the best lens he can afford, and, as hand-camera work is bound to be rapid, one working with as large an aperture as possible. These conditions will only be got in the rectilinear forms of lenses, as portrait lenses do not give good marginal definition; so if he cannot afford a lens specially made for this work he had better get one of the cheaper rectilinear made, which he can get (about $\frac{5}{8}$ in. focus) from 22s. 6d. upwards. It is true a single lens working at $f/11$ can be got for about 12s., but when one goes to the trouble of making a camera it is better to get a more satisfactory lens. For the lenses I refer to dealers' catalogues. A lens working at $f/10$ has a circle of confusion of less than $\frac{1}{16}$ in. at about 35 ft., if focus is $\frac{5}{8}$ ins., and so might be used for ordinary work. The nearest distance, according to the sharpness "One in a Fix" wants, can be easily found by experiment. In getting a lens I should strongly recommend one of the good makers' lenses, as defects are very soon seen in this sort of work, and the plates saved will pay for the lens.—J. G. P. VEREKER.

3545. Reducing.—Hypo, 2 ozs. to the pint of water, with a few drops of a saturated solution of ferridcyanide of potassium, is an excellent reducer. Won't keep.—GREENWOOD.

3546. Angle of Lens.—Mr. Feilden must have used the word "large" in some other sense than diameter. If he means the larger the diameter the larger the angle, it is certainly not true. The reverse is nearer the mark.—GREENWOOD.

3546. Angle of Lens.—Cannot agree with Mr. Feilden about this.—W. F. JONES.

3547. International Camera.—This is good in every way, and can be thoroughly recommended. Should, however, prefer a Wray or Taylor lens.—W. F. JONES.

3543. Stereo Slides.—Glass transparencies are on plates, lantern emulsion, specially made in standard stereo size. Mawson and Swan's I like best, 2s. 2d. per dozen. Develop with Thomas' hydroquinone formula, full strength. Any dealer will obtain them for you, as Mawson's have a London house. Ground-glass must be very fine; the best I obtained in Paris, but lately I have used Chadwick's (Manchester) ground-glass substitute; it is very much cheaper, and quite equal to ground-glass.—T. S. MAYNE.

3549. Stereo Slide.—If S. Stamp prefers a complete slide of "Rosset Mill," referred to, he can have it with pleasure, without cost. Write me, care of Editor.—T. S. MAYNE.

3550. Definition Wanted.—This means that the solution of gelatine must have some sulphate of baryta or kaolin mixed with it, and the latter, being insoluble, will remain as a kind of precipitate. To prepare the mixture, proceed as follows: Make a solution of gelatine, and while still liquid add some sulphate of baryta or powdered kaolin, and mix up well.—F. L. A.

3552. Bromide Enlargements.—Eikonogen is capital for this work, is just about as good as iron. Vide formula 3534. Warnerke. Dilute with twice quantity of water for bromide. Prefer quinol. pyro for this work.—W. F. JONES.

3552. Bromide Enlargements.—The following eikonogen developer works well on bromide paper—

A.	
Eikonogen	60 grs.
Sulphite soda	120 "
Water	4 ozs.

B.			
Carbonate potash ...	...	240	grs.
Water ...	...	1½	oz.
Take of A ...	...	5	drms.
Water ...	...	3	
B ...	...	20	minims.

More water may be used. Local application of potash with a brush has a great effect in bringing up parts that are lagging behind. One lot of developer will do several prints.—GREENWOOD.

3553. **Norfolk Broads.**—There is a small pamphlet book entitled "The Log of the *Salage*," with illustrations from photographs, reprinted from "Tinsley's Magazine" for August and September, 1889, by the Hansard Publishing Union, Limited, London and Redhill, which will give the information you require, besides being a very interesting account of a cruise on the broads. I think you would obtain this book gratis from the Great Eastern Railway Company by applying to them, as they issue it gratis with their time tables.—H. G. GORDON.

3553. **Norfolk Broads.**—Consult an article in the *AMATEUR PHOTOGRAPHER* for September 16th, 1887. Yacht will cost 50s. to 100s. per week, according to tonnage, season, and accommodation. The following are a few of the books published:—"Three Weeks in Norfolk," by Clarke, 1s.; "Notes on Rivers and Broads of Norfolk and Suffolk," by Brittain, 1s.; "A Month on the Norfolk Broads," by Rye, 1s. 6d.; "Handbook to the Rivers and Broads of Norfolk and Suffolk," by G. C. Davies, price 1s. 6d., and a fuller edition of the same at 7s. 6d.—E.

3553. **Norfolk Broads.**—The best popular guide is the "Handbook to the Rivers and Broads of Norfolk" (which has an excellent chart) by Mr. Christopher Davis, who is a successful amateur photographer. It is published by Jarrold & Sons, Paternoster Buildings, E.C.—A. MOORE.

3558. **Stereoscopic Effect.**—I do not see how this effect is to be obtained by any other means than by presenting two separate and dissimilar pictures (taken from slightly different points of view, that is to say), one to each eye, at the same time, so as to simulate what happens naturally when looking at any object. I do not think it will do for each eye to see both images in the manner you suggest.—F. W. L.

3558. **Stereoscopic Effect.**—To obtain the true stereoscopic effect you must have two pictures—to a certain extent unlike, mounted on one card, or printed as a transparency on one plate—this, when viewed with short-focussed lenses somewhat similar, and the lenses used producing the pictures (when looked at, of course, with both eyes), the brain combines them, and our sense of sight receives a single impression, the true stereoscopic effect. Try for yourself what you propose, and you will only get a result like a double image produced by a sifter moving, or your paper, when printing, moving out of register.—T. S. MAYNE.

EDITORIAL.

NOTE.—Anyone requiring an opinion upon photographic apparatus, plates, etc., must give a number or initial for identification, as in no case will makers' names be inserted in this column.

SPECIAL NOTICE.—We are very pleased to find that replies in this column are so much appreciated, but we should be very grateful if those requiring advice would send their letters to us BEFORE TUESDAY MORNING'S post if possible. The time occupied in replying in this column is very considerable, and owing to the often late receipt of letters, many matters have to be left over each week. This we much regret.—ED: AM: PROT:

H. J. L. CUNNINGTON.—We will try and look you up a few things, and insert a par.

C. D. D.—Have written the reverend gentleman, asking him to contribute an article.

AMMONIA.—We will forward your note to Capt. Bruno.

FRONIS.—No name and address; and we are not makers of photographic apparatus.

TWO FOXES.—Many of the dealers stock it, we think, but you would do well to procure it direct.

ALEX. KIRBY.—We will insert your letter, and will write you about rules, etc.

H. J. L. GRESHAM.—The camera B is one of, if not the best in the market, and is well worth the extra money. Item 2 we do not recommend; the one you name has a good reputation. Item 3, have never tried, so cannot say. Item 4: If you send the bromide prints and leave them for a day or so, will report upon them with pleasure. Until we have something worth reproducing. Should like to if it were not for the expense. We don't like to pass an opinion upon "rough prints," still you seem to have "got" the animals very fairly.

ERNEST H. CARTWRIGHT.—We publish your letter.

H. F. LINGING.—Being returned, we quite lost touch of your prints; send them to us, and we will be pleased to report upon them.

J. HARRIMAN.—Very sorry, evidently "Cassius" has got mixed.

REV. W. BENNETT, B.A.—Letter received; and we regret we find the word *except* was used. Sub-

scribers not having seen, or being likely to see, the prints you contributed to the "Home Portraiture Competition," cannot, of course, form any opinion as to the justness of the Editor's criticism. But if it will be any satisfaction to you we are quite willing that the prints should be submitted to Mr. H. F. Robinson, or either of the other judges. Your concluding paragraph is unjustifiable, the prints were at your call at any time.

HERBERT R. SPENCER.—The eyes of a "naturalistic" photographer would be even too penetrating. So pleased to receive your congratulations.

PERCY E. LYNE.—Reversal of the image not to be depended upon.

M. J. S.—Never heard of the lens; impossible to say what it is worth.

X. Y. Z.—We do not advise by post. The camera is very well made at the price. We should advise No. 2, but first-class lenses are supplied by the maker of the camera.

W. CRAMPTON.—We are very much obliged to you, and will try and get Messrs. Smith and Sons to have the *AMATEUR PHOTOGRAPHER* on sale at Brighton on Thursday afternoon. Our publishers make a very large delivery to them quite early Thursday morning.

REV. CANON MANN.—Many thanks for your letter.

K. O.—You will be quite safe with either of the following lenses: A, C, D, or E. They are all of excellent quality, and will give you much satisfaction. We are glad to find that our "Competition" prints have acted as a stimulus to persevere.

B. H. ABBATT.—Very pleased that the portrait prepared for the *REPORTER* of the President of the Bolton Photographic Society meets with approval.

C. S. COBE.—Thanks; MS. to hand. It will be very useful.

W. FREW.—Your MS. for *REPORTER* to hand. We will quote you for reprints by an early post.

A. F. W. F.—Before committing ourselves to an opinion, we should prefer to have an opportunity of examining the slides, and to have the formulae of developers used.

REV. T. PERKINS.—We are much pleased with your slides. They are good in tone, clear, and bright. The point of view in every instance admirably selected.

ORDNANCE.—The two portraits you send us are most encouraging. In A your model is a little stiff, and the hands rather too obtrusive. It is well, if possible, to get them on the same plane as the face. The features are slightly blurred, and the hair not clear and bright as it should be. In B there is some fault about the hands, but in less degree is the blur noticeable in the features. You have quite as much definition as you might expect from a cheap French lens, working at $f/8$, but it might be advisable to use a smaller stop, and slightly prolong the exposure. In A your model is standing rather too close to the background, and the picture would be improved by her standing free of the pedestal instead of leaning upon it. Considering the very short time you have been at work, the pictures show that you are a careful worker, and that by further study you will be very shortly doing capital work.

C. EMMANUEL.—Could you give us a call. We might then talk over your ideas.

A. H. WEBLING.—We will try and return your slides on Monday or Tuesday at the latest.

F. H. B.—We have safely received your negative. The lens does not seem to have covered the plate. The "poorness" of your negative is due to underdevelopment.

V. SNOW.—Your work is very creditable for a beginner. We think you might have got a better print from your negatives. Why not use the developer that is recommended by the maker of the plates you are working with? You do not give any particulars of exposure, lighting, etc. We shall be pleased to see some of your work at the end of the season, as we are sure you will soon improve.

W. BUDD.—We cannot spare time to answer by post. The firm you write about are genuine people, but not prompt. We do not hold a very high opinion of their hand-camera, but then it is sold at a very low figure. We have seen most excellent work done with the half-plate set you mention, and it is very often used for pictures sent to the *AMATEUR PHOTOGRAPHER* Competitions.

POLAPT TAMAR.—D first, then A. The latter is the better, but is complicated, and we do not know if it is actually in the market; D is a tried instrument. This answers 1 and 2. We do not care for B, and that it is advertised to work at $f/11$. We should prefer $f/8$, and about 5-in. focus; so much for 3 and 4. In answer to question 5, we should recommend C or B; the former for preference. There is certainly trouble with the plates in A. At present the cheapest and best is D.

N. WINGFIELD.—You will have a most useful and serviceable instrument in E. If you prefer a hand camera with dark slides, we strongly recommend F, it is admirably made, and has many novel and useful points. With camera E certainly lens E. With camera F, lens A—B and D are both good lenses, but those already referred to, are made and supplied by the makers of the camera, and are thoroughly tested for the work they have to do.

C. P. S.—We shall be pleased to have a "Letter to the Editor" column in the *PHOTOGRAPHIC SOCIETIES REPORTER*, and also such a column as this.

G. F.—From the list you send we would advise E or D, both should be seen before purchasing.

HON. T. G. P. VEREKER.—Very many thanks for letter and answers.

F. TAYLOR.—Any of the four cameras you name are thoroughly serviceable hand cameras. A is the cheapest and most convenient. B is well made and serviceable. C. We have not sufficient knowledge of to advise you to purchase. D is unique in form, and may be used either with roll-holder, changing-box, or dark-slides, it has advantages, and if you fancy its form you will be sure to have a useful instrument. We shall be very pleased for you to have the apparatus sent to us, and have no doubt any advertiser in the Sale and Exchange Column will be pleased to offer for sale subject to our report, our charge for *REPORT* will be at the rate of 2½ per cent. upon the selling price. The charge to be paid by the buyer.

MICHAEL A. SCOTT.—If you address the firm of plate-makers you mention, Watford, Herts, your letter will reach them. We will add your name to our list. It is most encouraging to find that our weekly, monthly, and quarterly are so useful to you. It is our practice to visit Scotland in July every year for a short stay, and if we reach as far north, shall be delighted to accept your invitation.

S. E. KENT.—Lens 1 and shutter 6 would meet your requirements, we think. It is always rather dangerous to adopt an article or apparatus that has been patented, although it may be only a revival of a previous unpatented invention. We do not recommend MS., the back of camera would have to be altered.

E. F. C.—There would be no vibration with the shutter until after exposure. We should advise you to consult the makers of the camera, and feel quite sure that they will advise you as to the shutter best suited for the special camera you have of theirs, which, by the by, is a very beautiful instrument.

CARILDA.—We cannot advise you of any book upon the production of what are called photo-blocks. A series of lectures were delivered sometime since before the members of the Society of Arts. The plant required is costly, and the work is one of great responsibility. Our printers, Messrs. Hazell, Watson and Viney, have for years cast their own type, but hesitate to undertake the responsibility of making type-blocks. We are sure that you will find it best to employ one of the firms who make the business a speciality, and we will give you names and addresses on receipt of stamped envelope. Very pleased to hear that our journal is highly appreciated, and hope you will soon be able to establish a society in your town.

REV. E. S. PAGE.—We should advise the book form. The special slide you mention is very light, but it certainly has the fault you mention; but in practice we do not think it a serious drawback. We know of no one making the "blackened square of tin with a spring attached," but in the book form and most dark slides there is such a dividing plate. We have slides of the pattern you name, and they have no appliance for keeping the plate in register. We, therefore, insert your query.

A. M. F.—About hand cameras, we do not feel justified in recommending A. B is a really reliable instrument, but a little clumsy for a lady's use. We should advise you to have either D or E, preferably the former, a very handy compact camera. Very sorry we cannot write you, but if you decide upon the D form, please write us, and we will advise you as to lens, etc. The entry form for "Ladies' Competition" will be sent out in a few days.

GINX BABY.—You will find A and D either of them answer your purpose. A is the least obtrusive, and is very light and handy. You had better have a short focus lens, about 5 inches, working at $f/8$. Write us if you want further help.

T. E. HEATH.—Many of the No. 5 are very good lenses, and give clear definition, working at $f/8$, but No. 6 is a very much better instrument, and will work at $f/8$. Of the cheaper lenses we would advise 3; but have had no experience of Nos. 1 and 2.

CAFE NOIR.—Your 8 by 5 lens; of course, without seeing the lens it is difficult to say whether the "slight scratch" is likely to affect the "working capabilities" of it. (2) The lenses made by the firm are equal to any in the market. (3) Perhaps not superior to the last you mention, but certainly better than the first.

EURERO.—We cannot advise any one to experiment with the "toy magic lantern lamp."

R. E.—Oh yes! We shall be "at home," and delighted to see you; hope you will all make yourself at home. Yes, we can perhaps find room for a little assistance here; several ideas floating about which you might give a hand with.

W. A. EVERINGTON.—Will write you in a day or two. Cannot reply satisfactorily in this column.

M. TUFNELL.—We think No. 1 or No. 2 will suit you best, the latter is very compact, and most fitted for a ladies' work. We do not know much about the lenses usually sent out, but there are several very excellent short focus lenses specially made for hand camera work. No. 5 is a very handy camera, and can be fitted with a changing box, but

both the other cameras have a stock of plates which are quickly and easily brought into position for exposure.

B. R. W. J.—If you will send us the negative, we will take every care of it, and, if an enlargement can be made, will undertake to get it done for you. It is, we think, very probable that a good picture might be secured, only taking the central figure. Without the negative nothing could be done. We retain the print waiting your reply.

BACKGROUND.—A neutral tint.

ALUM.—Make a fresh bath, it's cheap enough.

GEO. COMMONS.—If you advertise in Sale and Exchange columns, you will have a dozen first-class second-hand half-plate cameras offered for sale. See our note at head of this column.

F. W. LEVETT.—Only too pleased that our friends are kind enough to make suggestions.

TROTT.—The four prints you send show that you are working in the right direction. No. 1 is extremely pretty; rather too much foreground, and as a consequence not sufficient sky; might have been printed a little deeper. No. 2: Very fair, and free from distortion. No. 3: You should have backed your plate, and chosen a time when the sun was not in the chancel window. No. 4 is not a successful landscape; foliage is too heavy. Prints are returned, and letter inserted.

J. W. ELMORE.—Your photographs are very poor, and are not nearly up to the standard of prints sent to our "Monthly Competitions." No. 1: Dreadfully distorted, over-exposed, and badly printed. No. 2: The same remarks apply. No. 3: Really very bad; man's head is a blur, and so is the horses. No. 4 is no better than the others. We don't like to be unkind, but really you have everything to learn, and had better at once buy Burton's "Modern Dry-Plate Photography" and study it. We cannot give you a lesson in this column, nor can we endorse the opinion of "an artist, what always go to Germany every summer, that told me I should be a clever photographer." Not yet, we are afraid; but study the subject, and send us some of your work in six months.

Sale and Exchange.

RULES.—Fourpence for twelve words or less, and a penny for every additional three words, must be enclosed with each advertisement, together with the name and address of the sender, which must be paid for, and sent to Hazell, Watson, and Viney, Ltd., 1, Creed Lane, Ludgate Hill. Halfpenny stamps preferred. A single figure, or group of figures undivided by letter, space, stop, or two counts as one word; compound words count as two words.

REPORTING UPON APPARATUS.—The Editor of the AMATEUR PHOTOGRAPHER will be pleased to report, to any intending purchaser, upon apparatus, etc., offered for sale in the "Sale and Exchange" column, provided such apparatus, etc., is forwarded by the SELLER to him to the offices of the AMATEUR PHOTOGRAPHER, 1, CREED LANE, LUDGATE HILL, LONDON, E.C., free of charge. The intending BUYER to pay a fee equivalent to a commission of 2½ per cent. upon the sale price of the apparatus, etc. The publishers will undertake the packing and sending of all goods at the cost of the SELLER. As far as possible the Editor will undertake to send a report within TWO DAYS of receipt of goods.

DEPOSITS.

Deposits for goods to be forwarded on approval may be made with our Publishers, who will hold the amounts deposited until they are satisfied that the transaction has been executed to the satisfaction of both parties. Cheques and Post Office Orders should be made payable to Hazell, Watson, and Viney, Ltd. A nominal charge of 1s. is made whether a sale is effected or not.

N.B.—Trade Advertisements cannot, under any circumstances, be inserted in this column. Such advertisements can be inserted elsewhere at the Trade Scale, which may be obtained on application to Parry and Crawford, 1, Creed Lane, Ludgate Hill, London, E.C.

Accessory.—Balustrade and pedestal, handsome accessory; 25s.; photograph, 2 stamps. Cyclist, 2, Peters Street, Dereham Road, Norwich.

"Amateur Photographer," from April, 1888, up to date; will exchange for anything useful.—Bass, 65, Crocus Street, Nottingham.

Apparatus.—Exchange: quarter Instantograph, complete with lens, shutter, dark-slide, and case, Universal tripod, velvet focussing cloth, Decoudun's photometer, also model horizontal engine parts, for Fallowfield's Facile camera; no approval.—W. Ball, 18, Chaucer Road, Forest Gate.

Half-plate mahogany camera, three double book slides, Chapman's two carriers, best French rapid rectilinear lens, stops, canvas case, Acme pneumatic shutter, four printing frames, view finder, negative washing trough, three ebonite dishes, all good condition, and one Leerebours and Secretan second-hand portrait lens; the lot cost over 220s.; take 130s.; bargain; approval; deposit.—Manoukian, 7, Brazen-nose Street, Manchester.

For sale, 10 by 3 McKellen's camera, with turntable, tripod, three double slides, and Eastman's roll-

holder, with waterproof cases and Dallmeyer's R.R. lens, Watson's half-plate C. camera, three double slides, black travelling case, and cyclists' tripod, in case, fitted with Suter's 38 lens, Turnbull's detective camera, and six double slides; what offers? All the above very little used.—Apply, T. G. H., 8, Upper Hanover Street, Sheffield.

For sale, 7½ by 5 Watson's camera, horizontal and rising fronts, splendid condition, Dallmeyer's single lens (very good one), tripod, and two double dark-slides; take 7 guineas. Also quarter-plate Instantograph, with lens, shutter, tripod, four double dark-slides, and case; £2. Also a splendid Optimus R.R. lens, 5 by 4, with stops; cost 31s.; take 25s.; a bargain.—Address, T. L., 11, Eton Villas, Crown Hill, Harlesden, N.W.

Burnisher.—Marion's 3 roller, hot and cold, burnishing machine, just done up, as new, by maker; cost £6; offers wanted; approval.—Logan, St. Oswald's House, Tenby.

Burnisher, Lamps, etc.—Cabinet burnisher, two ruby lamps, instantaneous shutter, changing bag, good condition; 14s. lot.—Charcoal Works, Hodson Street, Liverpool.

Cameras.—Quarter-plate Watson camera, four double backs, changing box for 12 plates or 100 films, with case holding camera and slides, in good condition; cost £10; will take £7.—Lees, 19, Corporation Street, Manchester.

Stirn's detective camera, large size, perfect condition; 20s.; seen after 7 o'clock.—Roekaerts, 115, Shirland Road, West Kilburn. Busses pass the door. Krugener's book camera, complete, with 21 sheaths, in perfect order; £2.—Gordon, 16, Weighton Road, Anerley, S.E.

Half-plate Lancaster's Instantograph, with four double dark-slides, carriers, stand, etc., complete, in mahogany case; £3 10s.—A. Matthews, The Spa, Gloucester.

Kodak detective camera, equal new, cost 105s., price 75s.; also full developing set for same, cost 42s., price 21s., or exchange the lot for half plate Ross' Universal lens.—Bygrave, 15, Canterbury Road, Brixton, S.W.

Lancaster's quarter-plate Merveilleux, complete; 10s.; suit beginner.—A. Spiller, Hillside, Hampstead Hill Gardens, N.W.

Good half-plate camera, long extension, all movements (by Smith, Birmingham), three double slides, with carriers, Lancaster's Instantograph lens, Iris diaphragms, patent shutter, extra-firm sliding tripod, also seven astronomical working slides, fifteen comic and slipping slides, coloured; 90s. lot.—Hy. Thompson, Grosvenor Terrace, Harrogate.

Mahogany camera, 4 by 5, dark-slide, and quarter carrier, perfect condition, 12s.; landscape lens and tripod stand, 10s.; approval.—F. Hyland, Willesborough, Ashford, Kent.

8 by 5 Scovill Co.'s American landscape camera, swing-back, etc., three double dark-slides, good solid leather case, and portable tripod stand; cost £8; will sell the lot for £4.—Camera, Tontine House, Cross, Glasgow.

Camera, etc.—5 by 4 London-made long-focus camera, rack adjustment, reversing back, three double slides, Aptsu finder, in velvet-lined waterproof case, £3 3s.; Optimus three-fold ash tripod, adjustable, in waterproof case, 15s.—H. S., 75, Loam-pit Vale, Lewisham, S.E.

Marion's 12 by 10 mahogany camera and slide, Dallmeyer's group and portrait lens to fit the above, equal to new, price £20; one fancy and one plain background, 25s.; superior rolling press, £3 15s.; large print washer, studio chair and stand, large outside show case.—Particulars of Wise, Howard Villa, Howard Street, Reading.

Camera, Slides, etc.—Whole-plate camera, all movements, with wide-angle adjustment, six double metal slides; price £5; new last December.—Apply, Bucknall, Franche, Kidderminster.

Camera Case.—Camera case, leather, cheap, carry nine articles.—Adams, Hermitage Mews, Stamford Hill, N.

Hand Cameras.—Shew's Eclipse quarter-plate hand-camera, fixed focus, four double backs, waterproof case; cost 125s.; price 90s.—Greenwood, Stonegate, York.

Facile hand-camera, new; £2 18s. 6d.—F. A. Bean, Snaith, Yorkshire.

Harmonium.—Large harmonium, 8 stops, walnut case, good condition; £5, or exchange good R.R. lens.—Benson, Marlboro' Road, Oxford.

Lantern.—Magic lantern, 4 in. condensers, portrait lens, three-wick lamp, sheet, and 70 slides; price £3; exchange or detective camera.—Caesar, South Western Road, St. Margaret's, Twickenham.

Lenses.—Beck's 8 by 5 Autograph rapid rectilinear, Iris diaphragms, 70s.; Optimus 5 by 4 R.R., covers half-plate, 24s. 6d.—Summers, jun., 28, Cheapside, London.

Two half-plate lenses (Marion's), portrait and landscape; bargain, 15s., or offers.—Newell, Major Street, Todmorden.

Reynolds and Branson's half-plate R.R., new; approval.—C. Naylor, Batley.

London Stereoscopic Company's £8 8s. half-plate portrait lens, new; £5.—B., 8, Kimberley Road, Stockwell, London.

Lancaster's quarter-plate Rectigraph, Iris diaphragms, in perfect condition, 27s.; wide-angle Rectigraph, same condition, 14s.; lot of sundries,

list, stamp, approval, deposit.—Ridd, Schools, Bishopstow, Barnstable.

Optimus Buryscope, 7 by 5, good as new; 70s.—Hodgson, First Avenue, Sherwood Rise, Nottingham.

5 by 4 Optimus rapid rectilinear lens, excellent condition; 25s.—Bygrave, 15, Canterbury Road, Brixton, S.W.

Ross' 9 by 7 rapid symmetrical, with Newman's shutter; £6 10s.; approval; deposit.—G. Fell, 3, Tressilian Crescent, St. John's Wood, London.

Lens and Slide.—Optimus 6½ by 4½ ordinary portrait lens, condition as new, 33s. 6d.; whole-plate new mahogany slide, 10 by 7½ by 1½, 10s.—G. Adams, 121, Catherine Street, Doncaster.

Negatives.—Stonehenge negatives, whole-plate and half, also cloud negatives.—Apply, Stonehenge, Amesbury, Wilts.

Pathological Slides, by Cole, for microscope; exchange for others, general subjects.—Becher, 15, Jermyn Street.

Photographic Apparatus.—Rouch's half-plate reversible screen, three double backs, two quarter-plate carriers, Ross' 8 by 5 R.S. lens, shutter, tripod, and leather case, Rouch's portrait lens to fit above camera, complete; £15 cash; seen by appointment.—AMATEUR PHOTOGRAPHER Office, 1, Creed Lane, Ludgate Hill, E.C.

Two Instantograph cameras, complete, as issued, lens, slide, stand, etc., quarter-plate, 33s.; half-plate, 66s.; good as new. Wanted, good all-round lens, tripod, slides, accessories, all whole-plate, also good lantern, for either above sets.—Bartlett, Colporteur, Stratford-on-Avon.

Photographic Publications.—Vols. ix. and x. AMATEUR PHOTOGRAPHER, 5s. 6d.; vol. i. "Photography," 5s.; also vol. i. PHOT. SOC. REPORTER, 5s.; all unbound.—A. J. Hockham, 81, Stanstead Road, Forest Hill, S.E.

"Phot. Soc. Reporter," first six numbers; what offers in cash or photographic goods?—John Adams, Skelwith Bridge, Ambleside.

"PHOT. SOC. REPORTER," numbers 1 to 12; what offers?—H. White, Pembroke Dock.

Piccolo.—Improved patent D piccolo; exchange for dark-room requisites for quarter-plate, or sell, 7s.—Bishop, Restaurant, Brynmawr.

Print Washer.—Jefferies' print washer, half-plate size; price 7s. 6d.—Paterson, Victoria Crescent, Bursley.

Roll-Holder.—Will exchange new half-plate Eastman roll holder, loaded with new film, for Facile or whole-plate camera.—W. Smedley, Ashbourne.

Sets.—For sale, half-plate camera, Instanto (by Underwood), two double backs, extra sliding front, two extra carriers, tripod, Optimus 7 by 5 Buryscope lens, lot in case; cost £9; will take £6; all quite new.—Samuel E. Walford, Rose Cottage, Stechford, Birmingham.

5 by 4 square mahogany camera, with leather bellows body, lens by Scovill, New York, folding tripod, one double slide; 25s., or exchange to value. Approval, deposit.—Henry Ridley, 14, St. Thomas's Road, Hastings.

7½ square mahogany-bodied camera, single back, good condition, stereoscopic camera, two single backs, good half-plate lens, printing frames; lot 25s.—Thos' Pinlott, Whitley Road, Macclesfield.

Lancaster's quarter-plate camera, 1885 pattern, with lens, double dark-slide, and tripod top; price 15s.—Mander, 5, Fenwick Street, Liverpool.

5 by 4 camera back, excellent rapid lens (Stanley, London), printing frames, chemicals, stand, trays; 40s.—E. Bass, Forest View, Walthamstow.

Half-plate McKellen's treble patent camera, two slides, three-fold tripod, price £7 10s.; 3B Suter lens, £2 15s.; kodak, with 60 exposures, half-price.—6, Montford Place, Kennington Green.

Good half-plate set, Facile hand-camera, Ross' 8½ by 6½ A.O. doublet, Wratten and Wainwright's portable dark-tent, and tripod stand.—Ridgway, 1, Sparrow Corner, Minories, E.

A quarter-plate camera, brass-bound, double swing, rising and falling front, double extension, four double slides, one brass-bound, a 5 by 4 Optimus rapid rectilinear, a mahogany folding stand, view finder; £3 10s. the lot.—C. Pattinson, 178, Regent Street, W.

Lancaster's Instantograph camera, 1890, fitted with rapid rectilinear lens, complete set, and guaranteed in very fine order; £3 15s.; all improvements; approval and exchange.—C. Carlos, 74, Hercules Buildings, Westminster Bridge Road.

Complete quarter-plate kit, by Watson, for sale.—Clements, 3, Prospect Road, Old Brompton, Chatham.

Shutters.—Kershaw shutter, 3 in. diameter, quite new; £1.—R. Stamp, 13, Stanley Road, Barrow-in-Furness.

Shutter, Lens, etc.—10 by 8 Optimus rapid Buryscope, Kershaw shutter, £9 12s.; 7 by 5 Optimus R.R., 35s.; approval; deposit.—Webster, 91, Layerthorpe, York.

WANTED.

Cameras.—Quarter Eureka detective, with late improvements, cheap.—C. Emanuel, 36, Finsbury Circus, London.

Detective camera wanted, not larger than quarter-plate. State lowest cash price, with name of maker and full particulars.—H. B., care of Bolian, 21, Featherstone Street, E.C.

A 5 by 4 camera (Optimus or Watson's light pattern preferred); state lowest price and particulars. — F. W. Sears, 22, Chetwynd Road, Dartmouth Park, London, N.W.

Square camera, half-plate (Lancaster's International preferred), wanted, in exchange for half-plate Instantograph, quite new; a little money added for a good article. — D. Ritchie, 7, Frederick Street, Edinburgh.

Camera, etc. — McKellen's 10 by 8 camera, with dark-slides, tripod, etc., complete, with or without lens, must be in condition equal to new, and have all the latest improvements; state lowest price and all particulars; approval required. — O. Clifton, Mile End, Stockport.

Camera, Lens, etc. — Fixed focus detective lens and shutter, or good detective camera. — Maker and lowest price to T. Blake, 77, Anerley Road, Anerley.

Dark-Slides. — Two Talbot's quarter dark-slides,

also ruby lamp. — Thornton, The Pavement, Beckenham.

Dark-Slides and Lens. — Dark-slides, one or two whole-plate, perfect or slightly damaged; also whole-plate lens. State particulars and terms. — Fleming, 176, Stirling Road, Glasgow.

Lenses. — Whole-plate or 8 by 10 rapid rectilinear lens, also pair rapid stereo lenses, must be in faultless condition. — Particulars to A. S., office of this journal.

A.W.A. lens, whole-plate, Ross or Dallmeyer; also print washer. — Harry Molyneux, Haines' Hill, Twyford, Berks.

12 in. focus lens, single or R.R. — Wignall, Highgate, N.

Photographer, opening a branch studio, wants all accessories for same, including a Ross' No. 3 rapid cabinet or Dallmeyer's No. 3B lens, in perfect condi-

tion. — State all particulars and lowest cash prices to Thompson, Photographer, O'neagh, Ireland.

Monckhoven's "Optis." — State price and condition to Ord, 125, Scotswood Road, Newcastle-on-Tyne.

Roll-Holder. — Quarter-plate Eastman roll-holder, good condition. — E. Straker, Kenley, Surrey.

Roller Slide. — Quarter-plate Eastman roller slide. — Wills, 21, Wordsworth Street, Cardiff.

Shutter, Slides, etc. — Shutter, time and instantaneous, for Optimus 7 by 5 R.R., Thornton-Pickard preferred; also two or three half-plate dark-slides for Lancaster's 1889 Instantograph; also half-plate tripod. — C. Naylor, Batley.

Sets. — Cheap quarter-plate camera, lens, and tripod. — Herbert Cunningham, Braintree.

Half-plate or 5 by 4 set, Hure's or Watson's, light patterns only; state particulars. — O. Nowell Ustick, Trenarren, St. Austell, Cornwall. No postcards.

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NOTICES TO SUBSCRIBERS.

Subscriptions must be prepaid.

UNITED KINGDOM	Six Months, 5s. 6d.	Twelve Months, 10s. 10d.
POSTAL UNION	" 6s. 6d.	" 13s. 0d.
INDIA, CHINA, ETC.	" 7s. 9d.	" 16s. 3d.

NOTICES AS TO ADDRESS.

PUBLISHING DEPARTMENT. — All letters containing Subscriptions, Orders, Remittances, SALE AND EXCHANGE Advertisements, or other business matters for the *Amateur Photographer* are to be addressed to the Publishers, HAZELL, WATSON, AND VINEY, LD., 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

NOTE. — SALE AND EXCHANGE Advertisements, at the charge of Three Words for One Penny, can be received as late as WEDNESDAY MORNING.

ADVERTISEMENT DEPARTMENT. — All communications respecting TRADE Advertisements in the *Amateur Photographer* are to be addressed to PARRY AND CRAWFORD, 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

NOTE. — Trade Advertisements are received up to Tuesday morning.

EDITORIAL DEPARTMENT. — All Literary Contributions, Queries and Answers, Photographs for Competition or Criticism, Books or Apparatus for Notice or Review are to be addressed to the Editor, *Amateur Photographer*, 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

NOTE. — To ensure insertion all Communications should reach the Editor on Tuesday.

CORRESPONDENCE SECTION. — Anyone wishing to communicate with Contributors can do so by forwarding such Communication in stamped envelope under cover to the Editor, *Amateur Photographer*, 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

THE "AMATEUR PHOTOGRAPHER" FIRST LADIES' PHOTOGRAPHIC COMPETITION.

PRIZES.

First Prize	Gold Medal.
Second "	Silver Medal.
Third "	Bronze Medal.

(These Medals, of the smaller series, will be appropriately mounted as Brooches).

SUBJECTS.

Landscape or Seascape — Landscape with Figure — Genre or Figure Study.

CONDITIONS.

1. Not less than six or more than twelve prints are to be entered for competition.
2. All prints must be mounted, and the title (only) must be legibly written on the front of the mount.
3. The work must be entirely the work of a lady, who must be a *bona fide*

amateur photographer, and must have done all the work, *except* mounting, herself.

4. The negative of the prize photographs must be at the service of the proprietors of the *AMATEUR PHOTOGRAPHER*.
5. Photographs can be printed by any process, but *must not* be printed on opal, or mounted in optical contact on glass.
6. All photographs must be sent in on or before the 31st of May.
7. No prints will be eligible that have been entered for any previous competition.
8. Entry forms will be forwarded on receipt of stamped addressed envelope.

NOTE. — The adjudication will be made by lady artists and lady photographers. It is hoped that it will be possible to make arrangements to exhibit the photographs at a *Conversazione* to be held in the offices, 1, CREED LANE, E.C., during the month of June.

Further particulars on application to the Editor, "*Amateur Photographer*," 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

"AMATEUR PHOTOGRAPHER" MONTHLY PHOTOGRAPHIC COMPETITIONS.

THE PROPRIETORS of the *AMATEUR PHOTOGRAPHER* will offer, Monthly, two prizes, consisting of a

SILVER AND A BRONZE MEDAL (WITH RIBBON AND CLASP),

for the best and second-best photographs sent in to each of their Monthly Competitions. The subject of the Competitions will be as follows: —

LANDSCAPE OR SEASCAPE	June 14.
LANDSCAPE WITH FIGURE	Mar. 14 ... July 14.
GENRE OR FIGURE STUDY	April 14 ... Aug. 14.
INSTANTANEOUS PHOTOGRAPHS, — ANIMALS, ETC.	May 14 .. Sept. 14.

All photographs for any of the above competitions must be received by the

FOURTEENTH DAY OF THE FOLLOWING MONTH,

and as received will be acknowledged in the columns of the *AMATEUR PHOTOGRAPHER*.

Entry forms on receipt of stamped addressed envelope.

"AMATEUR PHOTOGRAPHER" MONTHLY COMPETITIVE PAPERS, 1890.

THE following Prizes are offered for competition every month: —

Three Prizes of £1 1 0 each.

Three Prizes of 0 10 6 each.

And Three Certificates.

The Papers must not exceed 1,000 words; and those which are awarded Prizes will be published in the *AMATEUR PHOTOGRAPHER*; others will be selected, and will be arranged for publication in the

"AMATEUR PHOTOGRAPHER'S ANNUAL."

Contributions are to be upon the subjects as list given below; and in order to make the matter more interesting, it is requested that each competitor shall give his *personal experiences*. It is intended that each subject shall be written up by a specialist for the ANNUAL, and the latest information given. All MSS. must be received not later than the

28TH OF EACH MONTH.

Subjects.

28th March	Optics.
28th April	Action of Light.
28th May	Exposure.
28th June	Plates and Films: their Development and After Treatment.

All MSS. to be addressed to the Editor, "*Amateur Photographer*," 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

Self-Lighting Burner

FOR THE DARK-ROOM.

For the rapid Printing process, Lantern-slide making, Enlarging, etc., this burner is simply invaluable.

Price, 2/6. Post free, 3d. extra.

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2/4

Send Postal Order and Negative, and I will return you a first-class 12½ by 10½ Enlargement from same, post free.

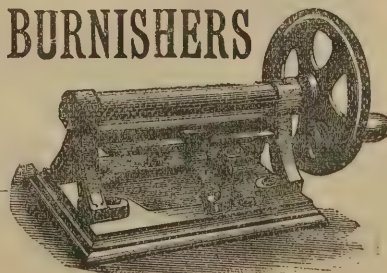
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Characterised by a wonderful linear fineness and gradation of tone. Colour, a rich engraving black. Rapid for enlargements by artificial light, slow for contact printing.

4½ by 3½ in. ... 6d. per dozen sheets.	10 by 8 in. ... 3/0 per dozen sheets.	18 by 15 in. ... 5/3 per ½ doz. sheets.
5 " 4 " ... 9d. " "	12½ " 10½ " ... 4/6 " "	20 " 16 " ... 5/9 " "
6½ " 4½ " ... 1/2 " "	15½ " 12½ " ... 7/0 " "	23 " 17 " ... 6/9 " "
8 " 5 " ... 1/9 " "		24½ " 19 " ... 7/6 " "
8½ " 6½ " ... 2/3 " "	Roll, 10 ft. long by 24½ in. wide ... 8/6	

The BRITANNIA WORKS CO., Ilford, London, E.

DALLMEYER'S LENSES

Are used by all the Leading Photographers, both Amateur and Professional, throughout the World, and have obtained the HIGHEST AWARDS WHEREVER EXHIBITED.

DALLMEYER "On the Choice and Use of Photographic Lenses." Price 1s.

New Descriptive Catalogue of Photographic Lenses and DALLMEYER'S LENSES and CONDENSERS SPECIALLY CONSTRUCTED FOR THE OPTICAL LANTERN, will be POSTED FREE ON APPLICATION.

J. H. DALLMEYER, Optician, 25, Newman Street, London, W.

Telegraphic and Cable Address—"DALLMEYER, LONDON."

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Rapid,

All Amateurs should use them.

Rich in Quality,

Inexpensive,

To be had of all Photographic Dealers.

Reliable.

ELLIOTT AND SON, Park Road, Barnet, Herts.

THE AMATEUR PHOTOGRAPHER

Edited By
CHARLES W. HASTINGS

1, Greed Lane, Ludgate Hill, London, E.C.

TELEPHONE No. 1645.

Telegraphic Address: "VINEY, LONDON."

VOL. XI. No. 285.]

FRIDAY, MARCH 21, 1890.

[PRICE TWOPENCE.]

OUR VIEWS.

"To hold as 'twere the mirror up to nature."—*Shakespeare.*

In another column we deal with the apparatus and art sections of the Crystal Palace Photographic Exhibition. We must dismiss the first-named by saying that it is not representative of the photographic trades—due, we believe, to the fact that several prominent manufacturers and dealers determined not to give the Exhibition their support. Many photographers, amateur and professional, coming from the country, and who have been intending to select their apparatus for the season, have been, and will be, we fear, much disappointed. Our subscribers have written, saying they suppose Mr. Blank's new camera, etc., will be on exhibit, but we have in too many cases been compelled to reply in the negative.

In the art section some 1,500 frames are hung, and it is with feelings of great pride that we are able to state that the largest exhibits in the Exhibition are those entered by the AMATEUR PHOTOGRAPHER, which comprise the photographs contributed to the Fifth Annual "Prize Tour" Competition. The work of forty-four contributors is exhibited, comprised in no less than 258 frames, and numbering upwards of 400 prints.

The judges appointed by the Crystal Palace Company have awarded a medal to our Competitor, the Rev. W. Mann, M.A., S.C.L. (Oxford), Precentor and Canon of Bristol Cathedral, for his photographs illustrating "Three Weeks in Brittany." They include four prints, "Old Bits in Dinan," "A Market Scene, Dinan," "The Old Convent Gateway, Dinan," "Granny and Great Granny," "Coming from Market," "The Ruin of La Garaye," "La Grande Rue, Dol," "North Aisle, Coutances Cathedral," and the "Lady Chapel, Coutances Cathedral." The work has been done with an 8½ by 6½ camera, Optimus W. A. and R. R. lenses, chiefly on Derwent and Ilford ordinary plates, developed with pyro and ammonia, the prints being, with but two exceptions, Ilford bromide, and Watson's matt-surface, all platinotype hot-bath.

In our opinion, and we believe that of the judges, these pictures are the finest shown by any amateur photographer in the art section. The award will carry with it the AMATEUR PHOTOGRAPHER Gold Medal, being the first

prize offered in our competition. The other photographs will be adjudicated upon next week, and if possible the awards will be published in our next issue.

We note also that Mr. Martin J. Harding, a competitor, has been awarded a prize for work identically similar to that sent to us but entered in the general exhibits. Surgeon-General Newland (Burma), another competitor, secures a medal for work of the same character as that sent to us, which he has entered amongst the general exhibits. There are scores of photographs hung in the Amateur Section, which have been sent to the AMATEUR PHOTOGRAPHER Competitions, many of them having been successful in gaining our prizes.

We may add that the next largest exhibit was that of the Birmingham Photographic Society, winners of the Challenge Cup, there being 26 entries and 144 frames.

The two exhibitions of slides contributed to the AMATEUR PHOTOGRAPHER "Lantern Slide" Competition were quite successful. On Friday we were pleased to find so many respond to our invitation to "afternoon tea." We only regret that arrangements were not such as to permit of more personal contact, but we shall hope upon some future occasion to meet our friends at a less formal and more social gathering. On Saturday evening the lantern show was attended by an audience numbering at least 2,000 people, and the slides, to judge by the vociferous cheering, were greatly approved. As far as possible, four slides from each competitor's work and the prize slides were shown, except Mr. Austin's, the winner of the AMATEUR PHOTOGRAPHER Gold Medal, he having for some reason refused to comply with our conditions, which provided that the slides should be exhibited at the Crystal Palace, and be at our disposal for copying or other purposes.

* * * *

We have received, and publish in our correspondence columns, the letter sent by Mr. J. Howson, on behalf of the Britannia Works Company, to Mr. George Davison, the Hon. Secretary of the Camera Club, and Mr. Davison's reply. Mr. Howson's letter contains a very liberal offer

For Contents, Prize Competitions, Notices, etc., see page 208.

on behalf of his Company, and aims a death-blow at "traders'" medals. The Company offer the Camera Club £100 per annum for three years, subject to the conditions set forth in the letter. The Committee of the Club have, through their Secretary, practically refused the offer, and Mr. Howson asks us to allow the correspondence to be published, and invites public discussion.

* * * *

WE have some few suggestions to make on the subject of exhibitions, which, with the permission of the President, we shall lay before the members of the Camera Club, at their Conference to-day (Friday), and shall not fail to keep in view the exceedingly generous offer of the Britannia Works Company.

* * * *

IN answer to our editorial note last week, that we should be glad to hear from any one who had the ability and inclination to contribute a series of articles upon "Stereoscopic Photography," we are delighted to be able to announce that Mr. Valentine Blanchard, a past-master in that beautiful section of photography, has undertaken to contribute a series of articles. The first will appear in our issue for the 2nd of May.

* * * *

ONE of our subscribers, the Rev. E. J. Pope, Barnstaple, is about to take a tour through Germany, Nuremberg, etc., to Ober Ammergau. He will be glad of any suggestions as to route, places to stop at, etc. Will some of our readers help him?

* * * *

A PHOTOGRAPHIC society has been established at Worcester, mainly through the exertions of Mr. T. James, and already, we understand, the society numbers some thirty or forty members.

* * * *

IN our advertising columns we give full list of contents of the April number of the PHOTOGRAPHIC QUARTERLY. Mr. H. P. Robinson, when passing *proof* of Woodburytype print of "He Never Told His Love," says, "It is a capital copy of the picture, truly worth the price of the whole number." We are afraid that the portrait of Mr. George Davison will not be universally admired. We cannot, however, accept any responsibility in connection with it. The negative was selected by Mr. Davison, and the proof passed by him.

* * * *

THOSE practising photography in Gateshead should write to Mr. G. R. Johnston, Secretary of the Gateshead Institute Camera Club, James Street, Gateshead. This club has just been formed, and the Secretary will be pleased to give particulars to intending members.

* * * *

THE Croydon Camera Club is now fairly started, and we understand that the number of members is being added to daily. The club promises to be a success.

* * * *

By a letter received from the Secretary of the Chamber of Commerce, we understand it is proposed to organise an exhibition of photographic apparatus and pictures in the

centre of the City of London, from the 1st to 15th of June. It is pointed out that through the liberality of one of the City Companies the cost to exhibitors will be very small, the premises being granted free of charge.

* * * *

WE publish in our correspondence columns a letter suggesting the formation of a society for amateur photographers in Edinburgh. It is not for us to say how far the existing Edinburgh Photographic Society fills the want; our correspondent has his opinion upon the subject, and we shall be pleased to hear what other amateurs may have to say as to the desirability of forming a society exclusively for amateurs.

* * * *

THE Lancaster Photographic Society would be glad to hear from any gentlemen desirous of becoming members. The Secretary announces that the annual general meeting will be held on April 3rd; the society is making good progress.

* * * *

A SUBSCRIBER, in thanking us for our invitation to the Crystal Palace, writes, "The thanks of all amateur photographers are, I am sure, due to you for the immense amount of trouble you take in furthering their hobby, and in my opinion a large portion of the wide-spread interest in, and great popularity of, amateur photography is due to the energy, knowledge, and tact you have displayed in your post as Editor of the AMATEUR PHOTOGRAPHER."

* * * *

IT will be remembered that we called attention to the fact that a photographic society was about to be started by the Y.M.C.A. We have just received the following communication: "A photographic society has been formed in connection with the central Y.M.C.A. at Exeter Hall, entitled the 'Exeter Hall Camera Club.' The club has been divided into two classes, 'Members' and 'Field Members,' and to the latter class ladies will be eligible for membership. Members will have the privilege of using dark-rooms, etc., and purchasing chemicals and appliances at cost price. Popular lectures, of an instructive nature, on photography will be given from time to time, exhibitions of members' work, outdoor excursions, and other advantages. Applications for membership, etc., to be addressed to G. J. Ingram, Hon. Secretary, Exeter Hall Camera Club, Exeter Hall, W.C."

* * * *

WE have received a letter from Mr. Alex. Keighley, in which he says, "I only yesterday got the 'Home Portraiture' number, which in my opinion is a great advance even upon the many excellent Special Numbers previously issued. . . . Allow me to say that I attribute much of whatever success I have gained to the valuable hints and useful information contained in the pages of the AMATEUR PHOTOGRAPHER, and to the stimulus and encouragement given by its competitions."

* * * *

NOTE.—The Editor of the AMATEUR PHOTOGRAPHER will be at the Crystal Palace Photographic Exhibition on Saturday, from 5.30 to 8 p.m., and will have much pleasure in meeting ladies or gentlemen who may be visiting the Palace, at the AMATEUR PHOTOGRAPHER stall, blocks H-I.

Letters to the Editor.

CONSTRUCTION OF CONDENSERS.

SIR,—In answer to a query in the AMATEUR PHOTOGRAPHER about hollow lenses filled with liquid for condensers—(1) The formula for the focal length of a lens consisting of a glass plate (parallel sides), a lens of liquid (plano-convex), and a glass in form of a segment of a sphere, with probably nearly concentric surfaces, would be rather complicated in appearance, though really not difficult to use. If we, however, neglect the glass covers entirely, which, as they are thin, will not make much difference, we have, using the usual letters, viz.:

r = radius of curved surface;
 t = thickness of lens;
 u = index of refraction of liquid;
 f = principal focal length.

$$\frac{1}{f} = \frac{u-1}{r} - \frac{\frac{u-1}{t}}{\frac{r}{u-1} + \frac{t}{u}}$$

This gives f , when r , t , and u are known.

If we neglect the thickness of the lens, we have simply

$$f = \frac{r}{u-1}.$$

I cannot quote from memory the value of u for glycerine, but it will be found in tables of refraction indices. I think it is about 1.4.

Thus with such a lens, if the radius of the sphere is 8 inches.

$$f = \frac{8}{1.4-1} = \frac{8}{.4} = \frac{80}{4} = 20 \text{ inches,}$$

and two such lenses close together would have a focal length of 10 inches.

It is very easy to find the focal length of such a combination practically. Set up some brightly-illuminated object, the lenses, and a focussing screen, and adjust so that the image on the screen is the same size as the object, and at the same time quite sharply defined; then measure the distance from object to focussing screen; one fourth of this is the focal length of the combination.

(2) The best arrangement when using any condenser for enlarging is when the rays from the lamp, after passing through the condenser, come to a focus just where diaphragm of the lens is to be placed.—Yours, etc.,

M. W.

* * * *

AMATEUR PHOTOGRAPHIC SOCIETY FOR EDINBURGH.

SIR,—It must have occurred to many of your readers that Edinburgh does not possess a society which is a sufficient expression of the large amount of amateur photography which exists within it. The present society is encumbered with professionals, who are no help to amateurs, but whose presence is rather a drawback to amateurs expressing their views. There is surely sufficient public spirit among the amateurs of this city to support a purely amateur society who would not be afraid to allow their proceedings to be seen of their brethren.

By inserting this letter you will confer a favour on some who are looking in that direction, and if there is any response to the sentiment, a meeting could be called to inaugurate a society.—Yours truly,

JOHN PIRIE.

Edinburgh, March 13th, 1890.

* * * *

PROPOSED CITY SUMMER PHOTOGRAPHIC EXHIBITION.

SIR,—It has been decided by the Photographic Trade Section of this Chamber to organise an exhibition of photographic apparatus and pictures, to take place in the very centre of the City of London from the 1st to the 15th June next. It is believed that one of the largest of the City companies will kindly give the section the free use of its hall and rooms for this purpose. The movement, as will be seen from the list of patrons and vice-patrons, is likely to receive considerable attention from the general public as well as from those interested in photography.

Exhibitors will be expected to provide for the insurance of their own exhibits, and as the premises will be given free of charge, the only expense to be incurred will be that of police and

other supervision, and such printing as may be required for cataloguing, together with the necessary advertising.

The liability from each exhibitor under these various heads will probably not exceed the amount of, say, £2.

This, it is believed, will be the first photographic exhibition held on an important scale, and particularly in the City of London, to which admission will be free of charge. It is expected, as a result of this arrangement, that the attendance will be very large, and exceptional means will thus be supplied of making it successful both as a matter of publicity and also of business. I am therefore desired by the Committee to inquire whether you will be disposed to exhibit at this exhibition, and, if so, what space you would probably require?

Any expenditure incurred will be entirely under the control of the Committee of the section, i.e., practically the exhibitors themselves.—Yours faithfully,

KENRIC B. MURRAY

London Chamber of Commerce,
 Botolph House, Eastcheap, E.C.

(Secretary).

* * * *

TOUCHING UP.

SIR,—I would wish to bring before the notice of your readers a process (may I call it) in photography which strikes me as being of considerable service, regard being had to the system of "touching up" so generally in vogue at the present day, and which, while, may be, it detracts from the exactness and truthfulness of a likeness, brings art to bear upon art, and so helps towards attaining the end which vanity on the one hand, and pecuniary gain on the other, seem bent on attaining, viz., the production of an elegant and artistic picture. After repeated trials, I have remarked that a certain weak solution of potassium cyanide (best applied with a fine-pointed brush) will remove wholly or in part the dark tones in albumen prints (due, I presume, to the silver's removal and exposure of paper, or less likely to the formation of some white salt or other), but without in the least noticeably affecting the albumenised surface; any superfluous KCN may be removed by brush water-washing. The poisonous nature of the reagent need not be commented upon. Of course on the strength of the solution depends the efficacy, for a little too strong an one leaves a yellow stain sometimes, even after the lapse of a few days or weeks; but this, if I am right in principle, need present little difficulty. The addition of a little thickish gum water lessens any tendency it may have to blur, i.e., make starlike spots or wavering-edged lines.

The chief methods at present employed, as known to me, for retouching the print is the brush use of the familiar photographic tint, and this works hand in hand with the one under consideration; for, in the latter case, after "local" toning, or even wholly obliterating a portion of the tones, free use may be made of the inevitable brush, according to requirement. Hence an admirable use may be found in whitening eyes, linen, etc., or doing away with any portion of shade of print, thus often adding very considerably to the general effect. I enclose samples of the work, kept several months.

I would add that I am but an amateur, and many of your journal's readers, I apprehend, are also of that genus, and if the suggestion I have made, verified as it has been by several of our humbler members of the brotherhood, shall be found to be of any value, it will give me great pleasure to reflect that some little additional matter has been added to that great store of knowledge which in the department of art, to which your paper is so sedulously devoted, has had such good and wondrous results.

If, too, use has already been made of the process suggested, or of some similar one, for attaining the results sketched, to this letter may possibly be drawn the attention of some who do not know of it, and to whom in due course, under perhaps some especial circumstances, it may be of good service.—Yours, etc.,

A HUMBLE BROTHER OF THE CRAFT.

* * * *

CRYSTAL PALACE PHOTOGRAPHIC EXHIBITION.

SIR,—In response to your kind invitation, I attended the above on Saturday evening in order to see the AMATEUR PHOTOGRAPHER lantern transparencies projected on to the mammoth screen by that past-grand-master in lantern management, Mr. W. Brooks. I need hardly say that amongst those shown there were many slides of surpassing interest and splendid technique, and I should much like to have sent you a detailed criticism of

them; but my object in writing this letter is a different one, viz., to point out to stallholders the undesirability of their closing so early on such nights as there are evening attractions like those provided on Saturday.

I came out of the lantern show about 8 o'clock, intending to do the apparatus, but before 8.30 most of the exhibits were covered over and the attendants gone. At the same time crowds of people were passing up and down the nave; and doubtless many workers who can only snatch an hour or so of an evening were, like me, doomed to disappointment.

Exhibitors should take note, for their pockets' sake.—Believe me, yours very truly,
H. MACLEAN.
March 15th, 1890.

* * * *

HAND-CAMERAS IN THE PUBLIC PARKS.

SIR,—What is really the law on this subject? I was told by one of the keepers in Wanstead Park that the bye-law under which they prohibit photographing in that park is framed to prevent obstructions by persons using tripods or other erections for the purpose of photographing. This, seemingly, would not prevent the use of a hand-camera. At all events, I do not see how the use of one is to be prevented, unless there is a law against attempting to take a photograph, in the same way that it is illegal to present an unloaded pistol at any one. The amateur does not always know if he has taken a photograph or not; how much more difficult must it be for a park-keeper to know if one is being taken.—Yours truly,

CHARLES F. STEEL.

* * * *

LIBERALITY OF A TRADING FIRM.

SIR,—May I beg you will insert enclosed correspondence in your next issue. The matter appears to me of sufficient interest to require public discussion as to what will be the best way to dispose of the gift in question.

I may say that my own feeling is to offer the sum as a scholarship, to be competed for by examination amongst the students of the schools of photography at the Polytechnic, South Kensington, etc.; and that the earning of such scholarship should carry with it the necessity for a year's residence and study at one of the best schools of photography on the Continent.

I venture to think this method would tend to elevate the art-science, and place it on a level with other special subjects, which are already endowed in a similar manner.—I am, etc.,

Ilford, 17th March, 1890.

JOHN HOWSON.

[COPY.]

"Brockenhurst, Ilford, March, 1890.

"My Dear Sir,—In looking over the programme of the Conference, I see amongst the agenda, a proposal to abolish trade medals at exhibitions. Now, though I hold views on this subject opposed to yours, I am quite ready to admit that general feeling is against me, and that being so, it is manifestly for the benefit of photography that my views should be put aside and trade medals should disappear. Therefore the Britannia Works Company will in future abstain from offering any such medals. This I hope will be some little help in clearing the way for a prompt and easy settlement of the question, as my firm is one of the principal offenders. I take this opportunity of recording my earnest conviction that, however ripe the time may be now for such a sweeping change, in the past the giving of trade medals has served a good purpose by stimulating competition and bringing to exhibitions good work, which would have been absent in many cases without such inducement. I claim, moreover, to have credit given us for a real desire to further the art of photography, as well as our own ends, in what we have done in the past. To prove that we have been and are to a great extent disinterested in our motives, I am pleased to inform you that the Britannia Works Company have generously placed at my disposal the sum of £100 per annum for three years, as a scholarship to be used as may best seem adapted to further the interests of either the art or science side of photography, with an expression of preference for the science side. To the Camera Club as the leading spirit in all forward movements in the art, I desire to transfer the generous gift, and I trust the Conference will see their way to accept it, and that we may be able to dispose of it in a fitting way.—Yours faithfully,
"G. Davison, Esq.

[COPY.]

"Camera Club, 14th March, 1890.

"Dear Sir,—The Committee of the Club discussed the subject of your kind offer at their last meeting on Thursday last, and requested me to thank you for your generous proposition. At the same time it was thought that the best way of applying the gift, or rather,

the best course to adopt, would be to place the fund entirely at the disposal of a Committee, or Trustees from, independently of any one society, but rather from the Photographic Society of Great Britain and other leading societies conjointly. A representative Committee formed in this way would probably be able to suggest a method of applying such a fund to advantage either by offering inducement for research and experiment in certain directions, or for original work of value in any way bearing on the advancement of the science or art of photography.—I am, dear sir, yours faithfully,

"John Howson, Esq.

"G. DAVISON."

* * * *

GAS CYLINDERS.

SIR,—I should like to refer briefly to the kindly criticism of Mr. E. H. Cartwright on my former letter regarding this subject. I am fully aware that the hydraulic test is a perfectly fair one in so far that a uniform pressure over the whole of the inner surface of the cylinder is created, just as it would be when a cyl. is charged with gas.

If, however, my third paragraph is read again, I hope it may be seen that the point I desired to bring under special notice was whether the hydraulic test is sufficient to prove that a cylinder charged with gas would merely rip if the strain from the gas were greater than it would stand.

The problem I should like to see settled, if not already settled, is this: Because a cylinder when tested and burst under hydraulic pressure merely rips, is it legitimate and scientific reasoning to maintain that another cylinder when charged with compressed gas will merely rip, should it also burst?

I think the concluding three lines of the third paragraph in my former letter expressed what I meant, thus: "Therefore, surely it is not correct to reason from the hydraulic test that a cylinder would not explode, but only 'rip up,' when compressed gas is the motive power within."

I can quite follow Mr. Cartwright's argument as to the sudden and vast expansion of gas when a cyl. explodes from a union of the mixed gases, but I ask your readers to kindly read the letter by Mr. John A. Hodges, in *Photography* for March 7th, page 157. This settles the matter as regards what I ventured to offer as my humble opinion as regarding a cyl. exploding merely from compressed gas. Mr. Hodges says: "Gas engineers invariably adopt the water test on account of its safety, well knowing the consequences which would ensue were the test performed by gas. Moreover, bottles have burst before now in the course of charging (and no gas compressor of any experience will deny the truth of the statement), and when they have done so, the bottles have flown to pieces with more or less violence."

Mr. John A. Hodges adds many more interesting remarks, and I have only quoted these in reference to a cyl. charged with compressed gas, not merely ripping, as it is popularly supposed.

The important bearing this matter has is manifest when we consider the accidents liable to arise with a cyl., such as a knock or fall, and, in such case, the risk of explosion, as Mr. Cartwright fairly points out.

Mr. Hodges appears sure of his information, and it will thus be seen from his remarks what danger is run when cylinders filled with compressed gas are roughly treated.

I shall be very happy to be set at rest on the matter, and am eager to be convinced without being compressed myself.—Yours faithfully,

C. HETHTON LEWIS.

Brighton, March 17th, 1890.

P.S.—In case my remarks are not quite clear, I venture to hope that the chief subject of discussion will be: Supposing a cylinder to have ordinary compressed gas, of one kind, within, would it, if it had a jar, knock, or fall, merely rip—if it burst?

* * * *

DRY PLATES IN SWITZERLAND.

SIR,—I quote following from a letter recently received from Swiss Customs authorities, which will reply to "Greenwood's" query in your last issue: "Ces appareils peuvent circuler librement et sans payer de droits de péages, à la condition de porter des traces évidentes d'usage et d'être déclarés aux agents de notre administration.

"A moins que les plaques sèches ne soient en quantité un peu importantes, elles ne sont pas non plus soumises aux droits."

—Your obedient servant,

JOHN HOWSON.

NOTE.—We are compelled to hold over several important letters, owing to the heavy demands upon our space.—ED: AM: PHOT:

The Complete Photographer;

OR,

THE MODERN RECREATION OF CONTEMPLATIVE MEN.

By H. P. ROBINSON.

CHAPTER VI.

EXPOSURE—(continued from page 155.)

PHOTOGRAPHER.—Now we shall get along without interruption. On the screen we have the image of some trees in the near middle distance, a fence partly hidden by dwarf apple and other trees, and some gardening tools in the foreground. We have no stop in the lens, that we may the better see the composition of our picture, but before we focus we will put in a smaller stop, let us say $f/16$; $f/23$ is the smallest stop I ever use for pictorial photography. Architectural subjects sometimes require a smaller diaphragm. Now get the image into what you think is correct focus.

PUPIL.—I wish I could see better. May I not focus with the full aperture?

PHOTOGRAPHER.—Certainly not. You must get your last focus when the stop you are going to use is in the lens. I have excellent reasons for this which I will explain by and by; we have no time now. Let me look under the focussing cloth. You have got the trees in focus, and all the foreground is blurred. If you must blur, let it be in the distance. Until the opticians can, with the fixed lens, enable us to do in the camera what we do with the rapidly changing eye, that is, practically see everything in equal definition throughout, we must be content with the best compromise we can get. The optician may, perhaps, some day give us that perfect imperfection, a lens that will so distribute the focus as to afford us reasonable definition all over, as the pinhole gives us unreasonable want of definition everywhere. We partly get over the difficulty when the subject will allow by the use of the swing-back. For the purpose of getting the gardening implements in the foreground into focus, and giving the rest a chance, we must swing out the back at the top. The reason for this I had better explain. The nearer an object is to a lens the greater length of focus is required, therefore if the rays of light from the foreground—the nearest object—that have passed through the lens can be made longer than those from the more distant trees the definition is more likely to be equalised, and as the image of the foreground comes on the top of the ground-glass we have to swing the back so as to lengthen the focus at the top.

PUPIL.—Quite so. There it is done.

PHOTOGRAPHER.—That curious anomaly, the scientific artist, who must have everything *true*, will tell you that the whole image is now out of drawing. Here is what one of them says:—"It throws the whole picture out of drawing, the relative positions of the planes are altered, the relative definition in the planes is altered, and therefore as a rule the picture is artistically injured." And he goes on to attribute what he calls this "rule of thumb" use of the swing-back to his usual man-of-straw, the "untrained craftsman." All that he says is quite true as a matter of theory, but I defy the cutest of his school to point out bad drawing in a photograph of a landscape, and it is practical picture-making we have to do with. The essence of fine art is poetry, not science, and the reason we have so little art in photographs is that we have more facts than poetry in our natures, and the scientific side of an art fosters the pursuit of facts.

PUPIL.—

"No theory e'er comes up to practice;
No argument like matter-of-fact is."

PHOTOGRAPHER.—That cuts both ways. Don't *you* become poetical in this stage of your pupillage, or you will drive *me* to quoting, which may delay our progress. We now have the image ready to be exposed. The foreground may be described by that obnoxious word "sharp," for with the naked eye we can see every detail, even to the orange spots on the wings of the brimstone butterfly that has just settled on the handle of the garden roller; the apple trees are in satisfactory definition, and the more distant trees are less in focus, but without blurring, fuzziness, or astigmatism. This is as it should be. We will now put in the plate-holder, draw the shutter, and expose a plate. As a matter of precaution we will cover the camera with the focussing cloth, but a well-made instrument ought to be able to stand a good deal of sun without admitting a trace of light.

PUPIL.—Are you not going to use the shutter?

PHOTOGRAPHER.—Not for this subject. There are more negatives spoilt by the use of the shutter than by any other means. It is to shutters we may in a great measure attribute the vast mass of black and white, soot and white-wash photographs with which nearly all amateurs' albums are crowded. It is these photographs that righteously move the wrath of the "naturalistics," in which you see I join them for once. Yet, with the usual contradiction, they are the very teachers who recommend the quickest exposures. It is to their mistaken method of getting rid of the evil I object. They soften by putting the image out of focus; I would retain definition, and obtain gradation and subordination by suitable exposure and other legitimate means. There is more loss of atmospheric effect from under-exposure than over-definition. Now the youthful amateur buys instantaneous shutters and instantaneous plates, and thinks, as it is natural he should think, that he will get instantaneous pictures with them. He has bought a machine warranted to produce a certain result, and he expects the music to come when he turns the handle. Do you know that I have had the pleasure of seeing the smile of incredulity spread over the beaming countenance of a two-months amateur at my thirty-year-old ignorance when I told him I could not get a *picture* except of the sea, or some other equally brilliant scene, with a so-called instantaneous shutter? He said he had read it in italics in a book that "the first principle of all artistic work in photography is quick exposure," and that there was "nothing to be said for time exposures." So he meant to under-expose all his life, and thus become an artist! This shows how dangerous it is for inexperienced persons to write about what they do not understand. Snap-shot accidents may be interesting, but they are not art. Art is the result of intention.

PUPIL.—What is "instantaneous?"

PHOTOGRAPHER.—Few pupils who use the word think of the meaning of it. It must be without duration. Now, a flash of lightning has lately been proved to have duration, therefore lightning is not quick enough to justify the word. In photography it may be taken to mean some fraction of a second. As the word instantaneous is so misleading, it would be better to divide exposures into two classes, "quick" and "time," one of a second or over being a time exposure. You may take it as a rule that in taking inland scenery you will not get a picture in less than one second, or even three or four with large lenses. Of course, I am not speaking of hand cameras and short-focus lenses, or photographs taken with large apertures at the expense of necessary definition. So we will proceed. We will expose three plates—No. 1, one second; No. 2, two seconds; No. 3, five seconds—and in developing will show that there may be considerable limits in exposure by getting good negatives from each. During our long talk we have done a foolish thing, we

have left the plate with the shutter drawn ready for exposure. Now, although the camera may be perfectly light-tight, a plate suffers when left in this way. The minute portion of light shut into the camera when the holder is placed in position possibly becomes active. It has been proved that sunshine can be bottled for future use; anyhow, a plate left for a long time in a camera with the shutter drawn ready for exposure, becomes more or less fogged, as you shall see this one will be, for we will expose it and put it aside, and then expose the three we require. The lesson is that a plate should be exposed as soon after the shutter is drawn as possible, and if any cause of delay is found, the shutter should be replaced for the time. In exposing, if you do not use a sunshade, lift the cap upwards so as to shade the lens from the light from above, and protect the lens from the direct rays of the sun. If the sun shines on the front glass, the plate will be hopelessly fogged. You see, I take the time with a watch made to tick seconds loudly, so that I have no occasion to look at the hand, and it is most useful to have the eyes free at the moment of exposure. The hand marks the seconds on the outer edge of the dial with dead beats. The ordinary trotting second-hand of a watch is very misleading.

PUPIL.—Cannot you trust to counting?

PHOTOGRAPHER.—You shall try, I will test you. Count twenty seconds. . . . You have gabbled through them in thirteen! This is the usual amateur measure, and another cause of under-exposure.

PUPIL.—That watch seems an old favourite.

PHOTOGRAPHER.—It is as old as my photographic life. Invaluable for measuring seconds. In other respects it is not a conscientious watch, and is given to playing practical jokes with the hours.

Winter Work.—XXIV.

By T. C. HEPWORTH, F.C.S.

PHOTOGRAPHY BY MAGNESIUM LIGHT.

(Continued from page 175.)

AN ingenious method of firing the magnesium powder in a lantern of the kind which I have described is given by an American writer. This method does away with the necessity for a spirit stove, but is only available where there is gas. It has the disadvantage of employing an explosive in the shape of potassic chlorate, but as this is not associated with any sulphur compound, it is not unsafe, provided that caution is exercised in its use. The mixture suggested is magnesium one part by measure, chlorate two parts. The chlorate should be powdered separately and mixed thoroughly with the metal, and the quantity used for one charge should not exceed sixty grains, unless under exceptional circumstances. The mixture can be fired by a long taper, but the plan given for ignition by gas is more convenient. In the lantern box is suspended a square of wire gauze, or it may be supported on the ring of a retort stand, and on this gauze, upon a square of tissue paper, is placed the charge of magnesium and chlorate. Eight inches or more below this gauze is brought a gas pipe crowned with one of those pin burners used in tobacconists' shops, which when turned up to the full make a long thin flame several inches in height. This flame is governed by a tap within easy reach of the operator, and at the commencement of proceedings the gas is turned down to the blue. At the right moment the tap is turned fully on, and at the same time the magnesium is fired and the flash produced.

The contrivances already before the public for the production of flash-light pictures are almost as numerous as in-

stantaneous shutters, and they present almost as much variety as that much invented contrivance. Some of these are mere toys, and are of no use at all unless they can be fired in series. As a rule those which are of the simplest construction are the best to adopt. One or two of these I will now notice.

Messrs. Beck, of Cornhill, supply the contrivance shown at fig. 1. This consists of a glass tube with a funnel open-



FIG. 1.

ing at the top for the admission of the magnesium powder, and a little spirit furnace in front, which is attached to the tube by a helix of wire. This is fired by the help of a pneumatic ball and tube.

Messrs. Hinton have introduced the flash-light arrangement shown at fig. 2. Here we have the same idea carried

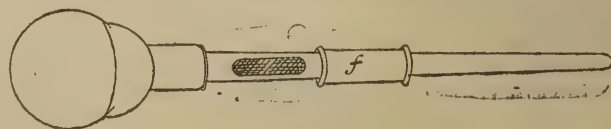


FIG. 2.

out in vulcanite, the opening for the powder being covered when the apparatus is in use, by the sliding sleeve *f*. It is evident that both these contrivances could be multiplied, and that several could be actuated by a puff of air from one source.

In Leisk's centrifugal flash lamp we have a carefully thought-out and very efficient lamp, the construction of which can be understood by reference to the sectional diagram, fig. 3. The lamp is cylindrical in form, and the

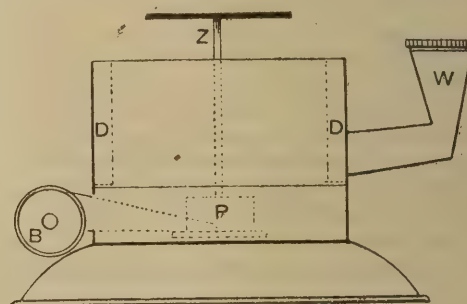


FIG. 3.

spirit and wick are held in an annular well, DD. The wick is of indestructible asbestos, and just enough spirit is poured into the funnel W to soak it well. When this wick is lighted, the flame forms a ring-shaped wall of fire, into which the magnesium is projected from the centre in a novel but effective manner. Z is a round table of metal, the supporting stem of which has at its base a coiled spring, P, and a horizontal ratchet wheel, the teeth of which engage a detent which is connected with a piston B. This piston is furnished with an outlet tube to which an ordinary pneumatic ball is attached. The apparatus is set for action by giving the table Z one or two turns with the finger and thumb, so as to wind up the spring; after which a small charge of magnesium powder is scattered on the table and the annular wick is lighted. When the pneumatic ball is pressed, the detent releases the ratchet, the table spins round, and by centrifugal force scatters the powder into the wick which surrounds it, producing a large volume of light with a very quick flash.

Some of the best photographs which I have seen, and which cannot be distinguished from pictures taken by daylight, have been executed by means of this lamp, or rather by a congregation of lamps of this description. These pictures were taken by the aid of four centrifugal lamps, supported on the ingenious form of stand patented by Mr. Slingsby, of Lincoln. This stand can be raised or lowered to any convenient height above the sitter's head, and it is fitted with horizontal arms, which support the lamps in any desired position. In order that the lamps may all be fired at the same instant, the tube from each is connected with one pneumatic ball (W) of large size, which has a nozzle (X) like

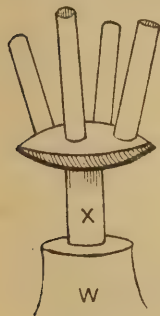


FIG. 4.

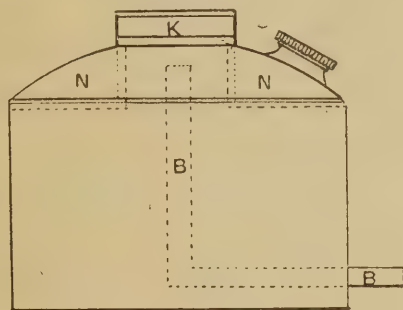


FIG. 5.

that shown at fig. 4, with quadruple nipples. The complete apparatus is supplied by Messrs. Marion.

The same firm make a simpler and cheaper form of lamp which is also efficient, but does not give such a mass of flame as that just described. The diagram, fig. 5, shows that this lamp follows the design of one already referred to, in which a charge of powder is projected into the centre of an argand gas burner. Here, however, the flame, although a circular one, is produced by a spirit lamp. The spirit is contained in the small annular chamber NN, and burns at the wick K. BB is a bent pipe which has its upper orifice at a lower level than the wick, and it is charged with magnesium powder by the temporary aid of a small tin funnel before the lamp is lighted. The lower opening of the pipe B, which emerges from the side of the lamp, is connected with an india-rubber tube and pneumatic ball, and the compressed air from the latter is sufficient to propel the powder into the flame.

Some time ago I devised a cheap experimental flash light apparatus by supporting a common clay tobacco pipe in such a way that its bowl stood upright over the centre of one of the little spirit stoves already mentioned. Before lighting the spirit I put a charge of magnesium inside the bowl of the pipe, and fastened a pneumatic bulb and tube to its mouthpiece. Such an arrangement answers well, if a pipe can be procured with sufficiently wide a bore to admit sufficient air to expel the powder. I see that a contributor to an American journal has recently still more simplified the same idea by wrapping round the bowl of such a pipe a pledget of absorbent cotton, which he soaks in spirit, so that no stove is necessary.

(To be continued.)



AMATEUR PHOTOGRAPHERS AT TEA.—On Friday night a new departure was inaugurated in connection with the Photographic Exhibition at the Crystal Palace, an invitation "Afternoon tea" being given by the proprietors of the AMATEUR PHOTOGRAPHER. There was a good attendance, and prior to the tea there was a lantern show of a very interesting nature. The slides shown were some of those which had been sent in for competition, and many of them reflected great credit on amateur producers, whose numbers increase largely year by year.—*Globe*.

Experiments with Oxygen Cylinders.

THE following account is taken from the *Glasgow Herald* of March 13th:—

"A series of experiments were conducted yesterday at Stevenson by the Scotch and Irish Oxygen Company, Limited (Brin's Process), for the purpose of demonstrating the absolute safety of their cylinders for containing compressed gases. It will be remembered that a fatal accident occurred to the foreman of their works at Polmadie by the bursting of a cylinder some six weeks ago, and the impression was conveyed to the public that the explosion was due either to some defect in the cylinder, or to its strength being overtaxed by being charged to an excessive pressure. A thorough investigation was, however, made into the cause of the accident, and the facts disclosed left no doubt that it occurred through a mistake on the part of the unfortunate man himself. It was clear that he had introduced oxygen into a cylinder which was already partly charged with hydrogen, these gases forming an explosive mixture when brought together. One fact especially which pointed at once to this conclusion was that the main portion of the exploded cylinder, found almost on the spot where the accident occurred, was almost too hot to be touched; whereas the portions of cylinders which have since been intentionally burst by being subjected to excessively severe treatment were found to be perfectly cold. In consequence of this erroneous impression it was thought advisable to subject the cylinders to an exhaustive series of tests, so as to prove beyond dispute that they are thoroughly adapted for the purpose of carrying the gases and capable of withstanding the most extreme amount of rough usage to which they could possibly be subjected during transit from place to place. The cylinders used are of different sizes, varying from 1 ft. long by $3\frac{1}{2}$ in. diameter to 6 ft. 6 in. long by $5\frac{1}{2}$ in. diameter. They are made of mild wrought steel $\frac{1}{4}$ of an inch in thickness, and before being used each cylinder is subjected to a hydraulic test of at least twice its working pressure, and is afterwards stamped with the pressure to which it was subjected, the date of the test, and the test mark. The cylinders are re-tested periodically, and for the purposes of safety the custom of the Company has been to paint those for the different gases in distinctive colours, so as to avoid the danger of mixing. As a further precaution, every cylinder which is brought into the works after having been in use is at once emptied. To make the recurrence of such a misfortune as the recent accident absolutely impossible, it has been decided to adopt a left-handed thread for the valves on the hydrogen and coal gas cylinders, so that by no possible inadvertency can they be filled at the oxygen pump. A number of experiments were made about ten days ago which gave excellent results. A 6 ft. 6 in. cylinder, weighing about 1 cwt., was twice raised to a height of 35 ft. and dropped horizontally upon a solid iron block 12 in. square and weighing $3\frac{1}{2}$ cwt., each blow bending it to the extent of about three-quarters of an inch. It was then dropped vertically on to its round end, having a clear fall of 31 ft., when it was found that the impact had only flattened a part of about the size of a penny piece. It was next placed across the iron block, and an iron weight of $6\frac{1}{2}$ cwt. dropped on to its centre from a height of 35 ft., the blow crushing in the side to the extent of $\frac{7}{8}$ of an inch. The cylinder was subsequently placed on two iron blocks, set 4 ft. 1 in. apart so as to support the ends, and the same weight again let fall upon it from the same height, with the result that it was bent $4\frac{1}{2}$ ins. from the straight, but did not explode. Another cylinder was afterwards tried in the same manner, with the exception of the crushing blow, and in this case even a more satisfactory result was obtained, as it was bent to the extent of $7\frac{5}{8}$ ins. by the bending blow and still remained intact. A smaller cylinder, measuring 31 ins. long, by $5\frac{1}{2}$ ins. diameter, containing 17 lbs. liquefied carbonic acid gas, was also dropped crossways and vertically from the same height, and was afterwards flattened to the extent of $1\frac{3}{4}$ in. by dropping the $6\frac{1}{2}$ cwt. weight upon it, without injuring it otherwise than in shape. Each of these tested cylinders were subsequently found to contain the full quantity of gas, and to be perfectly sound. Yesterday's experiments were of a similar character, and were equally satisfactory. A 6 ft. 6 in. cylinder, weighing 107 lbs., including the contents, was dropped four times across the iron

block from a height of 35 ft., these trials producing a bend of 2½ ins. It was also allowed to fall on its end, with little perceptible result. A smaller cylinder was treated in the same manner, and sustained no greater injury than a few dents. From these particulars it will be seen that the tests were eminently satisfactory, for it is inconceivable that such cylinders during transit could undergo anything like the severe treatment to which they were subjected, while it was evident that they still possessed a considerable reserve of strength."

Science Notes.

THE particulars of the work done by the expeditions sent out to observe the solar eclipse of last December are beginning to appear. The French astronomer, Pluvinel, who was stationed in Isle Royal, in the West Indies, reports that his photographs of the corona show that the general aspect of that solar appendage was similar to that seen during the eclipse of January, 1889. Its extension from the surface of the sun was but small, and the appearance of the "aigrettes" seemed to point to the existence of streams of matter, acted upon by a force of projection normal to the solar sphere, and a centrifugal force caused by the sun's rotation.

The well-known Midland engineering firm of Geo. Salter and Co. have made to the order of the patentee an automatic photographic machine. It is on the "penny-in-the-slot" principle, and some trials which were made last week showed it to act uncommonly well. There is to be a "Press view" during the present week, but possibly too late for details to appear in the AMATEUR PHOTOGRAPHER. Our own opinion is that the best plan would be to omit the works and "put a man inside;" it might then be as great a success as the Chess Automaton.

The *Observatory* for March contains a Woodburytype print of the corona from a negative taken by the late Father Perry during the solar eclipse of last December, which he went to South America to observe. The telescope used was a new short-focus reflector devised and made by Mr. Ainslie Common, and, notwithstanding the briefness of the exposure, the solar prominences and the brighter parts of the corona are all reversed, showing the immense light-gathering power of the instrument.

The report of the Harvard College Observatory (U.S.), just issued by Professor E. C. Pickering, proves that astronomer to be doing an amount of work which can only be described as "prodigious." Telescopes have been planted on Wilson's Peak in California, and on a lofty peak in Peru. At each station, and also at Harvard, a great number of celestial photographs have been secured. But not satisfied with this, the firm of Alvan Clark and Sons have in construction for Professor Pickering a telescope whose objective will be a gigantic portrait lens, 2 feet in diameter, and with a focal length of only 11 feet. The cost of this unique instrument (£10,000) is defrayed by a New York lady, Miss Bruce.

Surely, with all this photography of the heavens going on, it is time for our photographic societies to bestir themselves, and see that the photographic survey of the earth is not neglected. The old couplet says:

"If each about his own door sweep,
The city will be clean."

And if each society will only obtain a photographic record of its own district, a task of the utmost usefulness will be accomplished. We advise our readers to write to the Hon. Secretary of the Birmingham Society for a pamphlet (cost, six stamps), in which the principles of a photographic survey are laid down. The address is Mr. A. J. Leeson, 20, Cannon Street, Birmingham.

The Royal Meteorological Society are holding an exhibition of instruments illustrating the application of photography to meteorology, at 25, Great George Street, Westminster. It closes this (Friday) evening.

It is well known that the art of making "blue prints" has been more studied in the United States than on this side of the "herring-pond." A correspondent of the *Scientific American* gives the following directions for the use in this method of albumenised paper. Prepare the following solutions:—

A.	
Citrate of iron and ammonia	3½ drms.
Water	2 ozs.

B.	
Red prussiate of potash	2½ drms.
Water	2 ozs.

Mix these solutions in equal parts (they will not keep long after mixing), and float the paper on the solution for half a minute. Dry in a warm, dark place.

Printing is done in the usual way, and all that is then necessary is to wash the prints in two or three changes of water. Such prints can be burnished, and give much better detail than the usual ones on plain paper.

Astronomical photography is just now undoubtedly the most important branch both of astronomy and of scientific photography. Mighty telescopes have been constructed—of which those at the Lick Observatory in California, and Mr. Common's noble reflector at Ealing, stand pre-eminent—to which such delicate "driving" mechanism has been attached that hour after hour the instrument points steadily at one star, and the image of that star falls on one spot on the sensitized plate. The chemical effect of the rays of light is cumulative, and hence by giving long exposures—hours in duration—we obtain on our sensitive plates the images of stars, nebulae, etc., which the human eye never saw, and probably never will see.

But the length of exposure which can be given in such cases is limited by the length of the period of darkness—the night—and by its clearness. Some thousands of "star negatives" have already been secured, but perhaps not half a dozen have been given an exposure of more than three hours' duration; twilight, clouds, etc., cutting short the possible amount of absolute darkness in this country to that amount.

What we would suggest to astronomers is that at least one observatory—one powerful telescope—should be erected somewhere within the confines of the arctic circle, say in Greenland—the farther north the better—where exposures of days and even weeks could be given in the long night which there prevails, and which at the North Pole itself is of six months' duration. Even with the best "driving clocks" the telescope needs the aid of the human eye applied to a companion instrument to keep it pointing truly, but we have no fear that plenty of workers could be found willing to brave the cold and the darkness, provided that the cause of science be advanced thereby.

With such lengthy exposures it is possible that the entire surface of the dry plate would be impressed by the light from the stars. The universe is—must be—infinite in extent, and the image of the far distant unseen stars would at last overlap one another. With such exposures, too, we might detect evidence as to the "dark suns" which are believed to be careering through space, and which are considered to be the only real cause of danger to the long continuance of our own solar system.

Even without the advantage of lengthened exposures it seems to us that an arctic observatory would be a good thing. What facilities for steady, continuous work during the winter it would afford! A double set of observers would be required; and when the "long day" came they could occupy it in developing their negatives and tabulating their results.

F. G. S.

THE second edition of Wheeler's "Book of Modern Photographic Labels" is to hand, and shows considerable improvement on the original. The labels for developers are brought up to date, and those for poisons are on red paper. We recommend every worker to have one, as he will find it of great assistance in avoiding confusion.

FOOTBALL AND PHOTOGRAPHY.—We have received a very excellent photograph, taken with a Beck's hand-camera, on a Wratten and Wainwright drop-shutter plate, of a football match, England v. Ireland, played at Blackheath. The picture shows us the "second try," gained by England. The work is by Mr. G. Stokes, of Lee, S.E., who has also shown us a very capital enlargement; the attitudes are well caught.

THE AMATEUR PHOTOGRAPHER has issued an extra number, containing reproductions of successful pictures sent in for their "Home Portraiture International Competition." It makes a bulky and most entertaining volume, and the reproductions of the principal prize pictures in autotype leave nothing to be desired. The first prize picture, entitled "Children of the City," is technically excellent, and has pictorial qualities of the highest degree of excellence; while the numerous other illustrations do the greatest credit to amateur art.—*Globe*.

Our Contemporaries at Home and Abroad.

THE *Revue Suisse de Photographie* for March contains a warning to amateurs as to the danger of some of the flash-light compounds at present on the market. There are also articles on "Phototypy," "The Prediction of Photography," "The Castle of Wildenstein," and a *resumé* of the resolutions of the International Photographic Congress.

The *Photographic News* says, "The latest photographic curiosity is the rhombohedral camera of Professor Cohn, of Breslau, by which a picture can be taken while the eye is regarding it in the glass screen. This is effected in the following way: Two rhombohedra of glass are placed in a special chamber just behind the camera lens, by which means two images are thrown upon the upper and lower halves respectively of the ground-glass screen, the eye looking along a path between the two rhombohedra. To use the instrument, a sensitive plate is put in place of the upper half of the ground-glass. When a sharply defined image has been obtained upon the lower glass, an instantaneous shutter is released in the interior of the camera in front of the upper rhombohedron, and the picture is obtained on the sensitive plate." Articles: "The First Optical Lantern (with illustrations)," "Athanasius Kircher, the Inventor of the Magic Lantern," "Rules of Photographic Exhibitions," "Chromo-Photography in the Printing Press," "The Crystal Palace Exhibition," etc.

The *Photographic Review*, touching on the question of rules for exhibitions, says, "One often sees that a well-known man appointed as judge is unable to be present, and thus leaves his two *confrères* to decide the knotty question; in such a case we hold it absolutely necessary that his place should be supplied by some one else, and that that some one else should not be appointed or suggested by the judges. One wonders sometimes who suggests the judges to the organisers of exhibitions, and if one man being appointed suggests those whom he would like to have serve with him. This, we imagine, is the only way in which some men are selected." Articles: "Lessons in Photography," "Wanted—an Index," "Photographic Faults," "A Means to an End," "What to Do," etc.

The *Practical Photographer* presents its readers with a fairly good process reproduction of a flash-light interior. Articles are given on: "Pioneers of Photography," "Photography as a Business," "Apparatus at the Crystal Palace," "Celluloid and Other Films," "The Lightning Studio," "Practical Work," etc.

The *St. Louis and Canadian Photographer* (St. Louis) says, "Negatives that will have to be intensified by corrosive sublimate require prolonged fixing, if possible in a fresh hypo solution, and have to be well washed. Any hypo left in the film will cause yellow stain. To see whether a negative is free from hypo, allow a drop of the water adhering to the plate to fall into a test glass filled with the following solution: Boil 1 part of arrowroot in 100 parts of water, and when cold add to every 3 ozs. of this one drop of tincture of iodine. The solution immediately turns blue, but the addition of the least trace of hypo will destroy this colour at once. This is a very delicate test." Articles: "Albumen Prints," "Slow Development," "Art and Science in Photography," "Photographed by Lightning," "Odds and Ends," "Posing and the Theatrical Profession," "The Intelligent Use of the Lens," "Flash Powder Experiments," "Lyonel Clark's Toning Process," etc.

The *American Journal of Photography* (Philadelphia) says, "The great advantage of the changing box compared to the ordinary double holders is the saving of weight and bulk. The reason why this elegant form of apparatus has not been more extensively used in this country is undoubtedly owing to the fact that commercial gelatine plates here do not run even in size. This of course interferes with the free passage of the plate in the grooves, and leads thoughtless persons to condemn the apparatus itself, when the fault really lies in the carelessness with which the glass is cut. We should be very glad to see the changing-box re-introduced, particularly as the original idea is due to an American." Articles: "Weights and Measures," "Local Intensification and Reduction," in which it says: "Negatives (no matter how long they may have been developed), if they are too dense in certain places, are to be laid in clear, soft water for about five minutes, until the film is uniformly wet, then remove the superfluous moisture with a piece of filtering paper, then

place the plate in an ordinary printing or retouching frame so as to lie perfectly level, and so the light will show through the negative, then moisten the parts to be reduced with the ordinary hypo fixing solution (1:4); this is also done with a soft brush pencil. After which carefully drop on more hypo, using a pipette or medicine dropper for the purpose, until the hypo stands all over the space to be reduced; then drop a single drop of concentrated solution of red prussiate of potash in the hypo on the plate. This will immediately assimilate with the hypo and reduce the space evenly and rapidly. As soon as the desired degree of reduction is attained, the plate is quickly immersed in a tray of water. Any person trying this experiment must bear in mind (1) that the first painting with the hypo must be carefully done; (2) after the hypo is dropped on, the slightest shaking will cause it to overrun its bounds; (3) that the red prussiate of potash is a strong poison; (4) not to experiment at first with a valuable negative." Other articles are: "The Silver Printing Bath," "Clouds in Lantern Pictures," etc.

The *British Journal of Photography* says, "What we have now to suggest is, that in enlarging and for similar purposes it would be frequently found not only more convenient, but advantageous in other ways, to direct the optical arrangement towards a white-washed wall or other white screen placed in sunlight, rather than employ direct skylight or a silvered reflector in general vogue. The pleasantest and most comfortable enlarging arrangement we ever remember to have used was a horizontal one, the illuminant being a stable door painted white, and opened to the proper angle to catch the sun, the enlarging table and easel being moved about accordingly." Articles: "Pictorial Definition in Portraiture," "The Present Position of Isochromatic Photography," "The Art of Retouching," "A Word on Eikonogen, Hydroquinone, and Pyrogallol," "Hardwick and Scott's Warm-Air Saturator," "The Crystal Palace Exhibition," etc.

Photography, in its article on "Medical Photography," says, "The question is before us: How much of this photographic work can the medical man himself undertake, how much must he leave to specialists? It is pretty clear that until skilled photographers are attached to hospitals, or can be obtained at short notice, the medical man must do all his photography of patients himself, or trust to some amateur who may be on his staff or among his pupils. In most of such cases an ordinary photographer would be unable at once to obtain the desired result, and the wholly unskilled medico would not even be able to give the photographer the necessary directions; so that the photographer employed would have to be specially trained for such work, and in some cases would require to be inured to the unpleasant duty. Our point here is that professional photographers for such work will require special training." Articles: "Failures," "The Camera and the Inns of Kent," "An Enthusiastic President," "The Crystal Palace Exhibition," etc.

Illustrations contains reproductions by the Meisenbach Company, of photographs, and thirty pages of interesting letterpress, interspersed with good wood engravings.

"Thursday Evenings" at the Camera Club.

BY ONE OF OUR STAFF.

ON Thursday, March 13th, lantern slides were shown at the Camera Club. Mr. Webber occupied the chair.

Before the exhibition took place, the Hon. Sec. handed round some collotype prints on Japanese paper and satin, by Mr. W. K. Burton. Some fine Japanese papers intended for experiment were distributed to those desiring pieces.

The Chairman then called on Professor Stebbing, who was present, to say a few words to the meeting.

In response, Mr. Stebbing exhibited some collotype prints brought over by him from Paris, which had been produced by M. Balagny. Some of these were on rough-surfaced papers. Reference was made to the rapidity with which the prints had been obtained, Mr. Stebbing stating that within three-quarters of an hour of giving a negative to M. Balagny about twenty prints were given to him. He thought that M. Balagny would introduce his method in England, and he saw no reason why the amateur

should not have his own machine at a cost of about £4, and make his own collotype reproductions.

An excellent show of lantern slides was then given, altogether about 200 slides being brought or sent up by Messrs. W. M. Robertson, Lane, Elder, Seyd, Ellis, Laurie, Fitz-Payne, Howlett, and Grimshaw. The lantern was worked by Mr. J. F. Roberts.

The subject on Thursday, March 27th, will be "Platinotype Possibilities," when Mr. W. Willis will read a paper. Meeting at 8 p.m.

Apparatus.

THE NEW "CYCLE" FOCUSSER.

MESSRS. J. H. SKINNER AND CO., of East Dereham, have just brought out an arrangement for rapid focussing which will be a boon to all amateurs, and more particularly to those who use long-focus lenses. Figs. 1 and 2 show the arrangement attached to the camera, as in use.

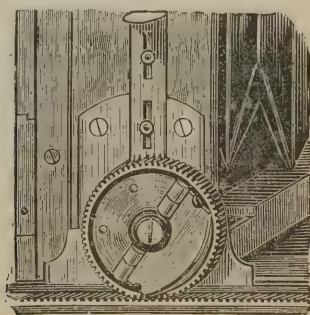


FIG. 1.

It will be seen from a reference to fig. 1 that there is provided, instead of the usual small pinion, a large wheel working in a rack outside the back. The large size of the wheel enables the

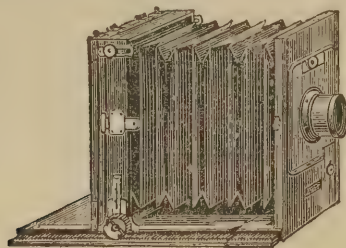


FIG. 2.

operator to rack out the camera in a quarter of the time usually occupied, and, to make the matter absolutely safe, a bolt, toothed to fit the teeth of the wheel, is dropped down upon it, which makes it perfectly immovable.

Messrs. Skinner and Co. have also placed on the market a new double dark-slide for plates or films (see figs. 3 and 4).



FIG. 3.

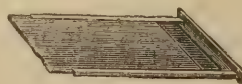


FIG. 4.

The back is of the solid or block pattern, with hinged shutters, and has a brass carrier (fig. 4) for holding two plates which is inserted into the base of the slide, and secured by a catch, shown in fig. 3. It is obvious that there is less danger of light penetrating to the plates, the slide is certainly no more heavy or bulky than in the ordinary book form, and there is less time and trouble taken up in inserting the plates. The price of both these novelties is reasonable, and they are likely to be widely adopted by those who practise the art. Samples can be seen at 6, Southampton Row, London, W.C.

Exhibitions.

PHOTOGRAPHIC EXHIBITION AT THE CRYSTAL PALACE.

It was scarcely to be expected that the managers of the Photographic Exhibition at the Crystal Palace could by any possibility bring this year's show up to the gigantic proportions of last year, for the occasion then was a notable one, viz., the celebration of the jubilee of photography. This year there is no Eiffel tower of photo-plate boxes soaring up to the far off crystal roof. Instead of extending the entire length of the nave, the bazaar of photographic apparatus stops short at the transept, and in the north nave there are rows of screens for some of the photographs on view. The transept opposite the big orchestra is entirely filled by a series of alcoves, some occupied by the works of well-known professional portraitists, whilst the remainder are filled by the productions of the members of the various photographic societies that have entered for the challenge cup. By the way, this challenge cup is an admirable idea, and surely will help to advance the standard of amateur photography. *Esprit de corps* must come in as a factor, and each individual member will bear in mind during his holiday tour, or in his various photographic outings, that he has the honour and prestige of his society or club to maintain. Next year probably some conditions will have to be laid down by the management, for surely it cannot be an equal competition when one of two alcoves occupied by the Newcastle Society is filled by the works of two such men as Gibson, of Hexham, and Lyd. Sawyer. The quantity and size of the pictures by these men has rendered necessary two alcoves, whilst, with one other exception, one alcove has been found amply sufficient for the productions of the other competing societies.

The fact cannot be denied that though the Crystal Palace is an admirable place for the display of apparatus, it is anything but a good one for the exhibition of photographs, and somehow, pictures that have been striking on the walls of other exhibitions have not the same force of effect, particularly in the nave. Another year it would be well to make the upper row of pictures hang over, and so avoid the reflection of the glass roof so far away, and yet so troublesome to get rid of. In the alcoves some of the pictures are very badly lighted, but full compensation is made at night, for each alcove is well illuminated by an admirable arrangement of gas.

The immense size of the building takes away the power of justly estimating the importance of the present show of photographs, and one is altogether surprised to find that there is here collected at least four times the number of photographs sent into the last exhibition at Pall Mall. The lantern display is more attractive than ever, and when it is remembered that the screen is 30 ft. in diameter, and that the lanterns are 100 ft. away, it must be admitted that lantern slides have never been seen to such an advantage before.

A selection from the slides sent in for the AMATEUR PHOTOGRAPHER Prize Competition, shown on Friday and Saturday, must surely have pleased every one of the exhibitors present; and the opinion as to the superiority of the prize winners we heard on every side endorsed the verdict of the judges, for they were undoubtedly the best of the series. The examples of portraiture in the alcoves attracted most attention, but this is not surprising; for there is a great deal of humanity about human nature, and the most flattering rendering of the human face and form divine will ever prove attractive, especially to the ladies, if we may judge by the ever-moving crowd of the fair sex invading this portion of the exhibition. One alcove has been given up entirely to the productions of lady amateurs, but a large proportion of the space is occupied by prints from the negatives of Rejlander. These have been printed and sent in by Mrs. Rejlander, and are marked not for competition. Of course an immense number of people must have seen the late display of the works of this great master at the Camera Club, but all those who had not that opportunity should not fail to see them now, for as a collection they stand, and must ever stand, unique. There are fifty of them in all, and it is impossible in such a varied series to do more than mention one or two. The old man with pen in mouth and spectacles pushed up on his forehead does not need the title "Remarkable! I have lost my pen, and now my spectacles are gone" to tell the story. That most pathetic picture "Homeless" is here,

and the bowed head of the forlorn boy conceals while it suggests his abject misery. "Jim, is it a good 'un?" is the picture of a street arab testing the genuineness of a coin with his teeth, and could not have been more real had it been done by a modern snapshot camera; and the same may be said of "Catching" and "Caught." The first is a boy with hand alert watching the progress of a fly upon a wall, and in the second one the clenched hand and triumphant face indicate clearly the finale of the tragedy. There are so many that deserve notice that space will not permit, so reluctantly we pass on. Miss Clarissa Miles has sent some charming portrait studies. "The Song" and "The Sisters" are both good, particularly the latter, a picture of two girls, very simple and unaffected in pose; but in both too much has been crowded into the background, so the success of the pictures is considerably diminished in consequence.

In Alcove B, Mr. John Pike has produced a most effective picture, which he calls "A Bit of Sixteenth Century Architecture." Only some tumble-down cottages, roofless, and weather-worn, but rugged and grand in their decay.

Mr. Lyd. Sawyer's "In the Twilight," which was so much admired at the Pall Mall Exhibition, and which gained a medal there, is so much skied that we fear many will fail to see its beauty. Mr. Pike's "Hayfield" is luminous and full of atmosphere, but has a great deal too much sky for the best effect. The ground and sky are exactly equal masses, and this is bad art.

Alcove D is occupied by the Tunbridge Wells Amateur Association, and there is some fairly good work displayed, but nothing to call for special remark, except, perhaps, the picture by the Rev. A. L. Scott, called "The Harbour," Blakeney, Norfolk. Here we have a lazy arm of the sea with motionless water, but there is no reflection of the heavy thunderous cloud overhead, and the want of harmony has spoiled an otherwise admirable picture. A series of effective portraits is shown by Mr. W. W. Winter, of Derby, in Alcove G, and they are all characterised by simplicity of treatment. The most charming is, perhaps, a group of two young ladies in white, simple in pose, and delicate in half tone. The faces are in shadow, but there is no blackness anywhere. There is an admirable portrait of Mr. Peasgood, and the picture of a smiling mother and happy baby must not be overlooked.

Alcove I is devoted to the Liverpool Amateur Photographic Association, and displays a large quantity of excellent work. "Sunny Italy," by George Thompson, is evidently the result of a summer tour, and is one of the best series in the Exhibition. They are taken with very rapid exposures, for we have the life and bustle of the market place, the movement of the gondolas on the Grand Canal at Venice, and the boiling, sulphurous clouds from the crater of Vesuvius. Cloud studies, by Daniel Cunningham, deserve notice, as also the cloud studies by J. L. Mackarell. Two pictures of hoar frost, by Paul Lange, are perhaps the most striking and artistic in this collection.

Alcove J is entirely occupied by Lafayette, of Dublin, and is most striking, for we have a series of very large panel portraits, printed in platinum, with elaborate scenic backgrounds and extensively worked up to produce the effect of Indian ink drawings. "Miss Oldham" is the portrait of lady in Greek costume, with bare sandaled feet, and is very charmingly posed. The portrait of Miss Hope is, to our mind, most effective; it is simpler in treatment, for the background is not elaborate, and the pose is most graceful. There are several portraits of Mrs. Langtry as Rosalind, in "As You Like It," and show the various costumes worn by her in that part; and the portrait of a lady in a Venetian dress with upraised hand, resting on a lofty mantelpiece, is one of the most striking of this series.

Alcove K is occupied by Van der Weyde, whose portraits are so well known they scarcely call for a remark here. In Alcove L there is a large series of pictures by members of the Birmingham Photographic Society. Mr. W. Jerome Harrison has done a delightful little picture, called "Racing down Sandhills." One child is sliding on his breast, head foremost, down a steep sandy slope, whilst others are making the journey upright, with legs half buried in the sand. The exposure must have been immensely rapid, for there is no posing—it is simply nature and nothing else, and we hope this picture will be published. "Leap-frog" is another remarkable instantaneous picture, also by Mr. Harrison. The boys are arrested in mid-air, and yet there is not the faintest indication of blurring. In both these pictures there is full exposure, for the half-tone is perfect, notwithstanding the enormous rapidity. "Gossips," by E. C. Middleton, is a perfect genre picture, and is undoubtedly the most effective one of this col-

lection. Alcove M contains the now well-known pictures of Mr. Lyd. Sawyer. The most beautiful one, however, is new to us, and is called "In the Moonlight." A dreamy quiet piece of water, overhanging trees, and two lovers in a boat, with mysterious gloom around, surely furnish materials enough for a picture. He has used them well, and has made it. The rest of the alcove is occupied by Mr. J. P. Gibson. He has sent fourteen large cloud studies, all equal in excellence. Alcove N contains a number of portraits by T. F. Goodwin, the most striking of which is a child as Red Riding Hood, and there is also a charming head of a lady, very bold in light and shade, but with perfect transparency in the shadows.

Mr. W. J. Byrne occupies Alcove O with a large selection from his well-known work; graceful women and flowing skirts abound. Two of the most striking pictures are untouched; one is an old man dozing, with newspaper in hand, and the other the Rev. Newman Hall, whose clear-cut, ascetic features, with all the lines and marks of thought faithfully rendered, is a relief after so much over-touched work. Martin Jacolette shows some good portraits in Alcove P. Miss Rose Holden is one, dressed after Gainsborough's "Duchess of Devonshire," large hat and all; but does not suggest Gainsborough's picture for all that. Miss Ritchie as Galatea is a charming portrait of a beautiful girl with soft clinging Greek drapery, and the pose is admirable. Alcove Q is occupied with strong men from the north, to wit, Gibson of Hexham; Auty and Ruddock, of Tynemouth; and Gould, of Elswick, Newcastle-on-Tyne. We will begin with the last-named first, for he shows a most remarkable picture of H.M.S. *Victoria* firing a broadside. It is many years since another strong man from the far north, Wilson, of Aberdeen, astonished the world with Nelson's old *Victory* firing a salute in Portsmouth harbour; this was in the days of wet photography, full thirty years ago. This feat has been performed indifferently well many a time since, but never so well as in the one now under notice. There is the belching spirit of "villainous saltpetre" from the iron muzzle from the ship's iron sides, and the twisting, coiling, sulphurous steam seems solid enough to stand on. We cannot say more; let the reader go and see it. There are several others nearly as good but not quite. Auty and Ruddock send several of their well-known pictures, but two, new to us, must be mentioned. A stranded ship in the gloaming, and lazy waves lurch in upon the sandy shore, and show a preternatural whiteness against the murky sky. "Wrecked" is another, similar in treatment, but the ship is half buried in foaming water. Most of Gibson's pictures have been exhibited before. "Autumn Haze" is a very beautiful landscape. In Alcove R, devoted to the work of the Peckham Society, there is a very remarkable view of the Tower of London, taken from some high point on Tower Hill, by F. W. Edwards, for it looks on to the platforms of the various outer towers, and shows the busy Thames beyond. It is taken direct, although it measures some 24 by 12 ins. Mr. Edwards must be commended for his taste in cutting away so many inches of uninteresting foreground, and thus giving proper importance to the grand old building.

In Alcove Q, Messrs. Green Bros. exhibit a considerable number of their large lake pictures, but most of them are so well known, and have been so frequently noticed, that they do not call for further remark, except to say they are superlative.

Passing to the screens, of which there are thirty-two (excluding those occupied by the "Prize Tour Competition" pictures), we find much admirable work. On Screen 1 two frames of "At Home" portraits by Mr. Fred. H. Evans (793 and 801) are well worthy of study as examples of what good work can do in an ordinary sitting-room. A photograph of a lady, another "At Home" portrait, by Mr. Butler (784), would be much improved by judicious trimming; there is too much space "to let." No. 800, a well rendered head by Mr. Balfour, deserves more careful mounting. Mr. Bright sends some pleasing enlargements from hand-camera studies of child life, 807 and 809. We should much like to see lantern slides from these shown on a large screen. The same remarks apply to Nos. 874 and 875, by the same gentleman. Nos. 814 and 815 are two very charming studies by Mr. Austin. Our readers will recognise 814 as the supplement to the last QUARTERLY. They are masterly examples both of technique and artistic feeling. Some of the studies by Mr. Stieglitz (835 and 838) will also be recognised as having been reproduced by us, No. 836 "A Good Joke," we think the best of the series. No. 862, a frame of three Thames studies below bridges, by Mr. T. Bright, in every way deserve the recognition they have received at the

judges' hands. They are some of the finest marine pictures we have ever seen, and we must congratulate Mr. Bright on his artistic and technical success. They should be carefully studied by all who desire to excel in work of this kind. Mr. Martin J. Harding's Pocket-camera Studies (870 and 1,037) also deserve careful examination; they show conclusively that artistic results can be produced as well by a $3\frac{1}{4}$ square camera as by a 15 by 12, if used with the necessary care and knowledge. "Tugging Out Against the Tide," by Rev. J. C. Lambert (878), is an artistic rendering of a pleasing subject, but would, we fancy, be better taken the long way of the plate, for the amount of both sky and water could be reduced with distinct advantage. For the Oxford interiors by Mr. Court Cole, we have nothing but praise. They are small but admirable examples of interior work. Mr. Muncey also shows on the same screen two good interiors, Nos. 897 and 898. Messrs. Bemrose and Sons' fine exhibition of mechanical prints, Nos. 916 to 926, should be examined by all interested in process work. Screen 9 is covered with pictures by Mr. A. Horsley Hinton (927 to 947); although somewhat uneven in merit, they show much artistic feeling and deserve notice. Screen 10 (948 to 969) is filled with twenty-two superb platinotypes of architectural subjects, entitled "A Monograph of Old Moreton Hall, Cheshire." To say that they are in every way worthy of their exhibitor, the veteran Mr. Richard Keene, of Derby, is to give them the highest praise in our power. Messrs. Gunn and Stuart's exhibit of portraiture on Screen 11 (970 to 974) comprises some fine examples of professional studio work. We like the direct prints better than the enlargements; the style of framing, too, might be improved by greater simplicity. Mr. Gambier Bolton is represented on Screen 12 (975 to 993) by some of his well-known animal studies. They are all quite up to Mr. Bolton's high standard. Mr. Scotton, of Derby, on Screen 13, (Nos. 994 to 999) shows some very fine photographs of engineers' workshops; they are of large size, and splendidly printed in platinotype, while 1,001, a platinotype of a drawing showing the general arrangement of a locomotive engine, is a most noteworthy example of the immense use of photography in the arts and manufactures. The whole exhibit is deserving of the highest commendation. Screens 15 and 18 are filled with very large pictures of the Canadian Pacific Railway; they are apparently bromide enlargements very much worked up both with black, white, and colour, but apart from their topographical interest call for no remark. Mr. Alfred Stieglitz exhibits on Screen 19 some well-intentioned studies (1,018 to 1,023); they show evidences of an art feeling which is none too common amongst photographers. No. 1,023 just misses being a picture; the large white patch formed by the handkerchief greatly detracts from the merit of an otherwise admirable study. Here we find three more pictures by Mr. Austin (1,029 to 1,031). Of these we like 1,029 "A Letter from Ben," the best. The posing, especially of the girl on the left, is very good. No. 1,031 is rather spoilt by the fence in the foreground. As usual with Mr. Austin's work, the technique leaves nothing to be desired. Dacoit hunting scenes in Burmah, by Surgeon Newland (1,035), are extremely interesting, not only for their own sakes, but as examples of the value of photographic records of facts made under the most difficult and exciting circumstances. A series of pictures by the Rev. J. C. Lambert (1,038 to 1,046) are worthy of more than passing notice; they are evidences of this gentleman's well-known love for art. Mr. Lambert exhibits also some examples of an old photographic dodge, in which the same sitter is taken two or three times on one plate. The photo-micrographs of Mr. A. Carnell (1,059 and 1,060) should be examined by all interested in the microscope. Photographs of this kind, especially where, as in these cases, the technique is good, must possess much scientific value, although perhaps they may be "caviare to the general," and the recognition of their usefulness by the medical profession will doubtless lead to a greatly increased number of workers in this study, which Mr. Andrew Pringle has made so particularly his own. On Screen 22, No. 1,079, a view near Odiham, by Mr. Muncey, would look much better in platinum, while Mr. J. W. Green's exhibit, "Views on the Seam," etc., although admirable in execution, have much to be desired from an artistic standpoint; the shadows are far too heavy. The same fault of too heavy shadows is also observable in a view of Matlock Bath by Mr. J. G. Pierpoint (No. 1,101). We find on this screen, 23, some more of Mr. T. E. Austin's admirable work (1,107 to 1,111); and of these we like "Cooling Waters," 1,108, and "By the Tow Path" (1,111) the best. The

commendatory remarks made on Mr. Austin's exhibits, noticed above, apply with equal force to these five pictures. No. 1,129, by Messrs. Perrett and Mayhew, enjoys the distinction of being, in our opinion, the very worst photograph in the exhibition; it is full of faults, the point of view is wrongly chosen, there is absolutely no artistic feeling, and the technique is bad. It would have been the truest kindness to the exhibitors to have excluded it. No. 1,131, "Carshalton Ponds, Surrey," by Mr. Bruce, are pleasing pictures of a pretty place. Mr. Lambert's "Whitby, Yorks" (1,138), wants a stronger sky. On Screen 25 we see some of Mr. Coll's admirable reproductions (1,139, 1,140, and 1,147) together with Mr. Lord's ambitious "Try Again" (1,143). This last, although well conceived and well executed, just misses the excellence of "Neddy's New Shoes," exhibited by the same gentleman a few years ago. We like "A Tale of the World," by Mr. J. Whaley (1,146), very much; the attitude and expression of the little boy, and pose of the narrator tell a story, and the picture needs no poetic quotation to explain it. Two pictures with the same name, "The Student" (1,144, 1,145), show Mr. Andrew Pringle's ability as a photographer of figure studies, and will be examined with interest by the numberless photographers to whom that gentleman's name is a household word. Photographs of the "Great Strike," by Mr. Nisbett (1,148 to 1,150) are good examples of instantaneous street work. On Screen 28 is found Mr. F. M. Sutcliffe's "Excitement" (1,164). Like all Mr. Sutcliffe's pictures, it is admirable. No. 1,166, another of his, is a flashlight picture of the Marchioness of Abergavenny's Court Lancers, and though a large picture, it is fully exposed, for both lights and shadows are delicate. Mr. R. Faulkner well maintains his high reputation by his exhibit on Screen 29. His studies of children, 1,169, are up to his usual high standard, while frame No. 1,170 contains three portrait studies, which, although small, are some of the most artistic examples of portrait photography we have seen. Mr. Symonds, on Screen 30, shows some of his famous yachting pictures (1,176). Like all his exhibits, they are splendid examples of marine photography. Messrs. Scott and Co.'s portrait of a lady (1,177) is another noteworthy example of the perfection to which portraiture has been brought by skilled professionals. An improvement in proportion might perhaps be made by trimming the lower edge of the print, so as to show less of the lady's dress, but it is a charming picture of a charming subject. Mr. Gambier Bolton has an enlargement of one of his famous lion studies (1,175), which does full justice to the original negative, a print from which is shown on Screen 12. On Screen 31, notice should be taken of Mr. Lord's "Dogs" (1,178) and Messrs. Frith's "Landscapes" (1,182). These last, although admirable, are mounted in optical contact with glass, a method of which we cannot approve. Two interiors by Mr. Reeve (1,179 and 1,186) are very fine examples of their kind, soft and delicate; they should not be passed by. No. 1,189, "Venice," by Mr. Wilson, is an artistic effect, due more to the paint brush than the camera; it is admirable work, but not photography. A very charming landscape by Mr. G. H. Catt, entitled "The Moated Grange" (1,225), is to be found on Screen 32. It surely deserves a cleaner mount and unbroken glass. Among the pictures entered for the Prize Tour Competition, those by the Rev. W. Mann are by far the best. The old picturesque streets in picturesque old Brittany towns have never been so well rendered before. From an artistic point of view three or four of them are absolutely perfect. There are also some admirable Norwegian scenes by Herbert E. Allen.

The exhibition, on the whole, is a very fine one. It, however, is so vast, and the number of pictures shown so large, that we have been compelled by exigencies of space to omit criticism on many frames worthy of more than passing notice, while many examples of bad photography which require condemnation have been passed over in silence from the same cause. We might mention 1,099, "The Keeper's Revenge," an inartistic photograph of an unsportsmanlike act, rendered the more objectionable by an utterly unsuitable oval mount. Again, on Screen 2, we find three bromide enlargements (Nos. 804-6) which we say unhesitatingly should not have been admitted. They show neither artistic feeling nor manipulative skill; in addition, No. 804 is printed from the wrong side of the negative. We have picked these out at random, but there are many examples of equally bad photography which we have no space to mention. We give it as our deliberate opinion, after a lengthened and most careful examination of the Exhibition, that the cultivation of artistic taste amongst photographers, both amateur and pro-

essional, is on the increase, and, notwithstanding the examples of bad work we have referred to, we are rejoiced to see a very much higher average all round than at last year's Exhibition. We sincerely hope that next year will show an improvement even greater, as it is only by the careful art study of its votaries that the reproaches which artists level against photography can be removed.

AWARD OF PRIZES.

Gold Medal for Best Alcove.

Lafayette (Dublin).

Club Challenge Cup.

The Birmingham Photographic Society.

Open to Professional and Amateur Photographers.

Class A, Sec. 1.—Green Bros, Grasmere. Special Award for Alcove.

" " 1.—Auty and Ruddock, Tynemouth, for 560 and series.

" " 2.—Lyd. Sawyer, Newcastle, for 469.

" " 3.—Richard Keene, Derby, for 948 and series.

" " 3.—Henry W. Reeve, for 1,186 and 1179.

" " 5.—James E. Goold, Newcastle-on-Tyne, for 568.

" " 5.—Symonds and Co., Portsmouth, for 1,176.

" " 7.—Gambier Bolton, Camera Club, for Screen 12.

" " 8.—J. Pattison Gibson, Hexham, for 470 and series.

Class B, Sec. 1.—W. W. Winter, Derby, for 199.

" " 1.—R. Faulkner, Baker Street, Portman Square, W., for 1,170.

" " 1.—B. Scott and Co., Carlisle, for 1,177.

" " 1.—T. F. Goodwin, 63, Anerley Road, S.E., for 483 and series.

" " 2.—W. J. Byrne, Richmond, for 517.

" " 6.—F. W. Edwards, Peckham Rye, S.E., for 616.

Class C, Sec. 1.—Frank Sutcliffe, Whitby, for 1,164.

" " 1.—R. H. Lord, Cambridge, for 1,143.

" " 3.—Arthur H. Carnell, Plymouth, for 1,057.

" " 7.—Walter L. Colls, Barnes, for 1,139.

" " 8.—Thomas Scotton, Derby, for 1,001.

" " 9.—H. J. Godbold, St. Leonards-on-Sea, for 1,166.

General.—George Thompson, Liverpool, for 222.

Open to Amateurs only.

Lady Amateur Class (Silver Medal).—Miss Clarisse Miles, Malmesbury, for 80, 81, and 82.

Class AA, Sec. 1.—G. H. Catt, Spettisbury, Dorset, for 1,225.

" " 3.—Court Cole, Folly Bridge, Oxford, for 891 and 892.

" " 3.—Rev. W. Man, M.A., S.C.L. (AMATEUR PHOTOGRAPHER "Prize Tour Competition"), Bristol, for 1,322.

" " 5.—Martin J. Harding, Shrewsbury, for 870.

" " 5.—T. J. Bright, Gipsy Hill, for 862.

" " 5.—Surgeon A. G. Newland, I.M.S., for 1,035. (For photographs taken under great difficulty.)

" " 8.—J. L. Mackrell, Fairfield, Liverpool, for 256 and 257.

Class AB, Sec. 2.—J. E. Austin, West Court, Detling, Maidstone, for 814 and 815.

Class AC, Sec. 1.—E. C. Middleton, Birmingham, for 414.

General.—W. Jerome Harrison, Birmingham, 401 to 406.

The Judges also recommend that a complimentary Medal be awarded to Mrs. Rejlander for the exhibit of her late husband's art studies.

Judges.—Messrs. Frank Atkinson, Valentine Blanchard, George Brittain, Wm. Brooks, F. Mason Good, Chas. Hussey, Paul Lange, E. M. Nelson, Wilson Noble, Andrew Pringle, and Sir David Salomons, Bart.

Executive.—Messrs. S. G. Buchanan Wollaston and J. Francis Peasgood.

APPARATUS.

If proof were needed of the still growing usefulness and popularity of photography amongst all classes of the community, a visit to the exhibition of photographs and photographic appliances now on view at the Crystal Palace would be sufficient to convince the most sceptical. Taken as a whole, the present show, so far as its pictorial element is concerned, may be regarded as the largest, most comprehensive, and most varied that has yet

been held. Varied it most assuredly is, for whilst there are many examples, not only perfect in their technique, but charming embodiments of the most refined sentiment and poetic feeling, stamping their authors at once as artists of no mean order, it is none the less true that there are scores which ought never to have found a place in any exhibition, unless placed as monitors or beacons, and each one bearing the appropriate label of "How not to do it." It is disappointing and much to be regretted that, as report says stereoscopic photography is being gradually resuscitated, not a single slide is to be seen in all the exhibition. This really beautiful and fascinating branch of our art ought not to be allowed to lie dormant. There are at the present moment thousands who are practically connected with photography and yet have never seen a stereoscopic picture. One can readily imagine that a rage similar to that which existed twenty-five or thirty years ago would soon set in if they were only fairly and systematically introduced again to the public. It is to be hoped, therefore, that those who have taken the subject in hand will work on with renewed energy until they see that in the matter of stereoscopic photography history is repeating itself. Might not the executive of the Exhibition take a timely hint for their next display, and offer a special prize for the best series of stereo slides?

The idea is surely worth some consideration. The lantern show is again, as on former occasions, under the able management of Mr. William Brooks, of Reigate, and forms a prominent feature in the proceedings. A free demonstration is given every evening in the lecture hall, at 6.30, when a pair of very fine lenses, made specially for Mr. Brooks by the firm of Taylor, Taylor, and Hobson, of Leicester, are brought into requisition. These lenses have been christened "the Crystal Palace twins," and to the great delight of those who attend the dark séances, right splendidly they perform their work.

Compared with former years, it is quite impossible to regard the apparatus part of the show as an unqualified success; and this fact provides material for very serious reflection. It has been known for some time past that a hostile attitude had been taken against the movement by several of the principal London manufacturers and dealers, which necessarily hampered the movements of the executive, and now the fact is rendered the more conspicuous by their entire absence on the present occasion. Those firms, however, which, proof against intimidation, gladly responded to the invitation sent them, consider their action as a fortunate circumstance, and believe that their relative positions meet with an apt illustration in the well-known fable of the hare and tortoise. It is a great pity that, in matters of this kind especially, the spirit of enterprise, so laudable in itself, should be so freely diluted by petty jealousies as to not only militate against their success for the time being, but also render their ultimate collapse probable. Let this cap be tried on and worn by any and all whom it may fit.

First in order in the apparatus division come the well-known firm of Watson and Sons, who are the occupiers of the first block. Their exhibits, although not so extensive perhaps as on former occasions, comprise a really splendid assortment of cameras and stands, varying in size from the mammoth studio set down to the less pretentious and unobtrusive hand-camera, all of the highest possible class of workmanship and design. The "Premier" camera is a piece of good workmanship, and both it and the "Acme" are admirably calculated to cause any amateur to break the tenth commandment with all his heart. By the way, how satisfactory it is to find that most objectionable phrase "detective camera" giving place to "hand camera," an alteration first suggested by Mr. Cambrano. The firm of Watson and Sons have recently pressed aluminium metal into their service, and are now using it for the fittings of their cameras. This very considerably reduces the weight of the instruments, which, when rigidity is not sacrificed by such reduction, is obviously of great advantage, more especially when field work is contemplated. A new form of hand-camera is also exhibited by them, the invention of Mr. Van Neck, of Antwerp, who is one of the principal photographic dealers in Belgium; the leading point of interest in this particular camera is that one is able to see the picture upon the focussing-screen up to the very instant of exposure.

The next block in order is that occupied by Mr. Stanley, a name not easily forgotten, seeing that it has become popularised all over the world, and whoever purchases any piece of apparatus at 13, Railway Approach, London Bridge, takes it for granted he

has secured a good article, and is never disappointed. A striking exhibit at this stand, and a most tempting bait, is a really magnificent camera and stand, of Brobdignagian proportions, and of the choicest workmanship, and now that the demand for large direct portraiture is becoming so general, this attractive piece of apparatus will doubtless prove a real temptation to many an enthusiastic aspirant for fame in that direction.

We next come to the various exhibits of Messrs. Beck, of Cornhill, amongst which are included two real stereoscopes in a glass case. This is at least suggestive. May we not hope that next year their exhibit will contain two stereo cameras?

(To be continued.)

Societies' Meetings.

NOTE.—In this column the Editors can, of necessity, only give a brief summary of the proceedings. The PHOTOGRAPHIC SOCIETIES' REPORTER was established to report the transactions of Societies, and the Editors will be glad to receive reports for insertion as early as possible after the meetings have been held, and at the latest before the 24th of each month.

BRADFORD PHOT. SOC.: The usual monthly meeting was held on Tuesday evening, March 11th, when the President, Mr. Alex. Keighley, opened a discussion on "The Art Principles of Dr. P. H. Emerson." The discussion was a most interesting one, and was taken part in by the following members: Messrs. D. G. Law, W. H. Scott, H. Forsyth, W. Wilkinson, W. Leach, and G. Firth. The arrangements were made for the fifth annual exhibition of members' photographs, and several alterations made in the class lists. At the next meeting of the society on April 8th, Mr. Walter Leach will read a paper on "Enlarging, Copying, and Reducing, with especial reference to Lantern Slide Making."

BRIGHTON PHOT. SOC.:—A meeting was held on the 11th inst. The evening being a lantern night, a splendid selection of slides, numbering about 180, were passed through the lantern, kindly lent and worked by Mr. Ford. The slides were contributed by Messrs. S. Fry and Co., the proprietors of the AMATEUR PHOTOGRAPHER, the Britannia Works Co., and Messrs. S. B. Hardcastle, J. G. Potter, G. Constable, and P. Morris. The slides on the new Alpha plates were much admired for their beauty and wide range of colour. The architectural subjects by Mr. Morris also elicited warm commendation.

BRIXTON AND CLAPHAM CAMERA CLUB.—The meeting on Friday the 14th inst. was mainly one for discussion of business. Two members were added to the roll. Mr. T. J. Bartrop afterwards read a few notes on "Enlarging on Bromide Paper by Daylight." On the 28th inst. will be held the annual general meeting.

DEWSBURY AM. PHOT. SOC.:—The monthly meeting was held on the 13th inst. Mr. T. G. Beaumont, President, in the chair. The Secretary, Mr. G. Kilburn, gave a paper on hints on "Lantern Slide Making." He first treated on commercial gelatine plates, showing specimens made on Fry's plates for cold tones, and recommended these plates as suitable for either contact printing or reduction in the camera. Plates suitable for slides in warm tones were Thomas's, "Alpha," etc. Slides made by the carbon process were next shown, and a general method of working by this process was given. A communication from the Autotype Company was read, stating that they were making a series of experiments, with the object of placing upon the market a tissue specially for transparency work. A résumé of the colloidal emulsion process was given, together with specimen of work. A number of slides by the wet-plate process were shown. March 25th, "Complimentary Social Evening." April 10th, "Hand Cameras," monthly meeting.

HOLBORN CAMERA CLUB.—On the 14th inst. a lecture and demonstration on "Enlarging from Small Negatives" was given by Mr. H. S. Fry, who secured some very successful 17 by 23 enlargements on bromide paper, using an ordinary Optimus lantern, fitted with the oxygen light, and provided with a green baize curtain 3 ft. by 4 ft., with small aperture in centre, through which lens of lantern was put. After making a very successful vignettéd portrait, a landscape was exposed, the sky being masked; the print was then developed, and developer washed off, and the print then exposed again for the clouds, which were

developed by the local application of developer with a pad of cotton wool. For enlargements a lantern cap of yellow glass is a great help, as by its means one can see exactly where to place the paper. To-night (Friday), beginners' night; instruction will be given in development of gelatine plates by Mr. J. E. Smith, silver printing and toning by Mr. E. H. Bayston, platinotype printing by Mr. F. Brocas, and bromide printing by Mr. T. O. Dear.

LANCASTER PHOT. SOC.:—On Tuesday, March 11th (being the last meeting of the session), a lantern night was held, visitors being invited. The company, numbering about 50, had the opportunity of viewing about 130 slides, one-third of which were lent by the Editor of the AMATEUR PHOTOGRAPHER, the rest being the work of members and friends. The pictures thrown on the screen by Mr. J. W. Pickard's lantern drew from the audience frequent signs of admiration and approval. The next meeting, April 3rd, is the general annual meeting of the Society, and commences a new year. The Secretary will be pleased to hear from any gentlemen in the district who would like to join the Society. Seven gentlemen await election at the next meeting.

LEICESTER AND LEICESTERSHIRE PHOT. SOC.:—A regular meeting of the Society was held on the 12th inst., Mr. S. S. Partridge, President in the chair. The silver and bronze medals were presented to the successful competitors in the lantern slide competition, Mr. Porritt and Joliffe respectively. On the motion of the President, Mr. Thomas Scotton, Derby, was elected hon. member of the Society. The competition for silver and bronze medals for enlargements offered by Mr. F. Pierpoint was declared void in consequence of the number of entries not complying with the conditions. The competition was postponed until the October meeting. The medals are offered on condition that not less than three compete for the silver, and five for the silver and bronze medals.

LOUTH AND DISTRICT PHOT. SOC.:—A meeting of the members of this Society was held on the 10th inst., at the residence of Mr. S. F. Clarke, Ugate, for the purpose of electing officers and other matters. The first business was the election of officers, and this was at once proceeded with, the following being the result:—President, the Rev. C. W. Whistler; Hon. Sec., Mr. S. F. Clarke; Committee, Captain Ranshaw, Rev. J. M. Coates, Messrs. C. James and Jno. East; Hon. Treasurer, Mr. E. Hall. Mr. Hall announced that Mr. Clarke would, at the next meeting to be held in the evening of April 14th, have ready for signature the members' book, and the subscriptions would be due. The date of the first excursion was left open. Mr. Clarence James exhibited a specimen of a new celluloid film negative.

NEWCASTLE (STAFFS) AND DISTRICT AM. PHOT. SOC.:—At a meeting held in the Library on Wednesday, March 12th, Mr. Henderson's resignation of his post of Secretary was read and accepted. The following gentlemen were elected as joint Hon. Secs., Messrs. W. Wilberforce Beach, and J. D. Illidge; and as they were members of the Council, Messrs. S. M. Copeland and H. E. Emery were elected members of Council in their places. A paper on "Flash-Light," contributed by Mr. E. Best, was read by Mr. Illidge.

NEWCASTLE-ON-TYNE AND NORTHERN COUNTIES PHOT. ASSOC.:—The ordinary monthly meeting was held in the Mosley Street Café, Newcastle, on Tuesday, the 11th inst., Mr. J. P. Gibson in the chair. Three new members were elected. The Hon. Secretary (Mr. Edgar G. Lee) announced that arrangements had been made so that each member would receive a free pass to admit all the time to the Photographic Exhibition in the Art Gallery, Newcastle, which opens on the 18th inst. The evening was devoted to a discussion on "Stereoscopic Photography," and an exhibition of slides. The AMATEUR PHOTOGRAPHER Competition, "Stereoscopic Slides and Enlargements," were also on view.

NORTH MIDDLESSEX PHOT. CLUB.—On Monday next, March 24th, Mr. Smith will give a lecture on "Micro-Photography," and illustrate it by means of the optical lantern. Visitors are invited to attend.

PHOTO. SOC. OF IRELAND.—An ordinary meeting of this Society was held at the rooms, 15, Dawson Street, Dublin, on Friday, the 14th inst., at 8 p.m., Mr. Greenwood Pim in the chair. Four new members having been elected, the Chairman called on Mr. Louis Meldon to read his paper on "Shutters." Mr. Meldon began by saying that he would not endeavour to travel right through the subject, but would rather confine himself

to a few points, and extend his observations to instantaneous work and the lenses most suitable. Having explained the working of the Wilson chronograph, which he used as his timing apparatus, he went on to say that shutters might best be classified relatively to the position they occupy when used with the ordinary form of doublet lens: (1) on the hood of the lens; (2) between the two combinations; (3) immediately behind the lens; (4) immediately in front of the plate. The fourth class he intended at once to dismiss, for although its position was in many respects the most favourable of all, the advantages were much outbalanced by the inconvenience due to the large size of the apparatus needed. An ideal shutter, he said, was one which, if it were possible, would open to its full aperture suddenly and without lapse of time, and having remained open a certain time would close suddenly again. Mr. Meldon having dealt with most of the instantaneous shutters in general use amongst photographers, proceeded to describe his own, and passed through the lantern some admirable specimens of its work, including his celebrated "Diver." The members present having discussed the paper, the proceedings were brought to a close by a hearty vote of thanks to Mr. Meldon.

ROTHERHAM AM: PHOT: SOC:—The monthly meeting was held on the 5th inst., Dr. Baldwin, President, in the chair. Mr. Firth gave a short paper on "Exposures," dealing chiefly with the difficulties in using exposure tables, and advocating long exposures with slow and careful development, giving also his personal experience in exposure and development. The next monthly meeting is to be a lantern night, when the Britannia Company's prize lantern slides will be thrown on the screen by the powerful triple oxy-hydrogen lantern.

SPEN VALLEY PHOT: SOC:—The first ordinary meeting was held on Tuesday, the 11th inst., the President (Dr. Farrow) in the chair. After some introductory remarks of a general character, the Hon. Sec. (Mr. W. H. Wright) read his report, which showed the Society to be in a very promising condition, and that the dark-room, with appliances for enlarging, etc., was ready for the use of members, and that a fair nucleus of a library has been formed by the gift of books and papers by several members of the Society. The question box was opened and the contents discussed, after which the President read a paper entitled "The Scientific Basis of Photography," being a very able and clever treatise with numerous illustrations. At the conclusion of the meeting the members inspected the dark-room and its appliances, with which they expressed themselves highly gratified.

WEST LONDON PHOT: SOC:—An ordinary meeting was held on the 14th March, Mr. E. W. Foxlee in the chair. Mr. Henry Selby read a paper and gave a demonstration on "Eastman Stripping Films." The lecturer said stripping films in the hands of careful workers presented few difficulties and were undoubtedly superior to glass in the matter of portability, storage, and immunity from damage if dropped. He seldom dealt with more than two films at a time. The great point was not to leave the films more than ten minutes in washing water after development and fixing; after that time he placed them in acid bath composed of acetic acid, 10 minims, water, 10 ozs., in which they were left all night. Films so treated always stripped without trouble. His mode of working differed from that recommended by the Company in the following particulars. He did not strip the same evening as he developed; he never used rubber solution; he did not place the film on glass support under water, it being easy to avoid bubbles without so doing; never used glycerine and alcohol, and did not varnish the gelatine skin. Mr. Selby then proceeded to give a practical demonstration of the process. An interesting discussion ensued.

WEST SURREY AM: PHOT: SOC:—At the meeting on the 12th inst., at Crichton Hall, Clapham Junction, the subject was "Landscape Work, and the Picturesque Therein," by Mr. W. Winsford. The lecturer, defining the mission of a true picture to be to awaken the highest feelings of the mind, as well as show the excellence of its technique, said that in landscape work this could be best done. The production of good pictures depended especially on the cultivation of taste in choice of subject, time, and light, surroundings and perspective. In addition to these, certain rules of art must be applied, viz., the proper amount and distribution of light and shade, contrast in tones and forms, and above all, the introduction of a human interest, so that our work should not appear merely pictures of an empty world. Illustrations of the various points were given by descriptions of scenes with which all were more or less familiar, and by

remarks on the composition of well-known pictures. The paper also showed where figures could be best introduced to secure contrast and relief, and concluded by an appeal to members not to degrade the camera into being simply the means of producing "mere bits," urging that breadth of subject largely conduced to effective pictures and tended to elevate and influence the mind. On the evenings of the 26th, 27th, and 28th inst. there will be an exhibition of photographs and lantern slides. The Editor of the AMATEUR PHOTOGRAPHER will be present on the evening of the 28th, and will provide lantern slides for one of the shows.

WINDSOR AND ETON PHOT: SOC:—At a meeting held on the 13th inst., Mr. A. Moyse in the chair, a paper was read by Mr. A. Glass, member, on "Enlarging." The author terminated his interesting paper by a demonstration of the development of an enlargement. The acting Hon. Sec. then explained to the meeting the proposed coalition with the Scientific Society, and it was proposed by Mr. Hollett, and seconded by Mr. A. F. Moore, and resolved that "The members of the Photographic Society approve of the proposed coalition of this Society with the Scientific Society, and that the details be arranged by the Committees of the two Societies." This was carried *nem. con.*

WORCESTER CAMERA CLUB:—On Thursday evening last a meeting of Worcester gentlemen interested in amateur photography was held at the head-quarters of the Worcester rifle volunteers, St. Nicholas Street, Major Webb presiding. A number of gentlemen regretted they were unable to attend. The Chairman, after remarking upon the advantages and pleasure the members were likely to derive from practising the art of photography, moved the following resolution, which was seconded by Mr. J. Cam:—"That it is desirable to form an amateur photographic society for Worcester." It was then proposed by Mr. W. A. Firkins, and seconded by Mr. E. Jones, that the following be elected a Committee to draw up rules and take steps towards the formation of a club, and report to a meeting to be held on March 27th: Committee, Major A. Webb, Messrs. J. Cam, C. Dutton, T. B. Judson, F. G. Jones, and W. H. Cam. Mr. T. James kindly consented to act as Hon. Secretary *pro tem.* A hearty vote of thanks was then accorded to Major Webb for presiding, which brought the meeting to a close.

NOTE:—The following reports received too late for insertion:—Wallasey (5th), Hackney (13th), North Middlesex (15th),

MESSRS. HINTON AND Co.'s new catalogue is to hand. It contains all the necessary apparatus and material for the purposes of photography at a reasonable price, the purity of the chemicals being guaranteed.

NEWCASTLE (STAFFS.) AND DISTRICT AM: PHOT: SOC:—We are asked to state that the Hon. Secretaries of this Society are: Mr. W. Wilberforce Beach, West Brampton, Newcastle, Staffs.; and Mr. J. D. Illidge, Earl Street, Newcastle, Staffs.

PHOTOGRAPHING NATURAL COLOURS:—The following has been received from Vienna:—Dr. Eder, Professor of the Photographic Institute of Vienna, has announced that a photographer named Veresch, living in Klausenburg, Transylvania, has succeeded in solving the problem of photographing in natural colours. Up to the present, only the shades between deep red and orange can be retained, and even these, if exposed to the light, fade in from two to three days; but the experiments are being continued, with good prospects of complete success.

WASHING PRINTS:—Mr. L. Stanway, of Cauldon Road, Hanley, is a most ingenious inventor, and gave us a call last Tuesday, showing us many things. Our attention was particularly called to a novel arrangement for washing prints. In most print-washers the prints are subject to a sort of perpetual motion, oftentimes resulting in torn prints and consequent loss of time and money. Mr. Stanway has made a series of frames in which prints, say from 12 by 10 to $\frac{1}{4}$ plate, are laid on an open screen of strong twine, another screen placed on the top—the face of the prints by a simple contrivance being kept off the screen—and so on. These are placed upright in the washer, the water of course having access to the whole surface of the print, therefore not coming in contact with the bottom of the vessel at all. The screens are also made for the zinc plate-racks now so frequently supplied with washers. These latter are very simple and very cheap; they are eminently suitable for the amateur, as by their use prints can be washed with as much ease as plates.

To Correspondents.

THE insertion of **QUERIES** and **ANSWERS** is attended with much labour, and it is requested that the questions asked and the answers given shall be short and to the point. No charge is made.

All communications for the columns are to be addressed to The Editor, "Amateur Photographer," 1, Creed Lane, Ludgate Hill, London, E.C.

RULES

1. Write clearly and distinctly on one side of the paper only.
2. Write each Query or answer on a separate sheet of paper.
3. Write the name and address legibly on the back of each communication, and sign all Queries and Answers with name or *nom de plume*.
4. All matters for these columns **MUST** be received by **TUESDAY MORNING'S** post.
5. The Editors do not undertake to answer questions by post.
6. In answering Queries correspondents are requested to mention, in every instance, the number and full title of the query referred to.

QUERIES.

3574. **Ilford Plates in Paris.**—Will any amateur kindly tell me where the Ilford plates can be obtained in Paris?—S. WILTSHIRE.

3577. **Insoluble Gelatine.**—Can any reader give me a reliable method of preparing gelatine, so that it is insoluble in acids or water after exposure to light? I wish to coat a piece of glass with a thickish solution of gelatine, expose it under a negative, and wash away the protected parts.—O. JEFFREYS.

3578. **Holiday in South Devon.**—My holiday of a fortnight commences on April 12th, and I am desirous of spending the same in South Devon. Would any brother amateur who has spent a holiday there give me his assistance as to best place for centre of operations, a good inexpensive hotel or boarding house, and his general experiences?—HOBBY.

3579. **Removing Stains from Steel Engravings.**—I wish to copy some steel engravings, but, unfortunately, they have some long yellow stains across them, through defective frames. How can I remove the stains without injury?—C. S.

3580. **Italy.**—I am making a trip to Italy this Easter, and wish to take photographs. What developer would be best to take? And what plates is it best to use with the recommended developer?—POOR CHINEE.

3581. **Metal Slides.**—Will some amateur give me his opinion of Tylar's metal slides? Kindly mention faults, if there are any; and can they be bought separately?—POOR CHINEE.

3582. **Metal Dark Slides.**—Will any brother amateur tell me if I can use these slides in one of Lancaster's half-plate 1889 Instantographs?—NIT-SUA.

3583. **Magnesium Flash-Light.**—What is the cause of the smoke that arises when the powder is blown through a flame? I find that no smoke is made when the powder is projected by a spring, as in Vever's pistol. Is it the mixture of air with the powder, or does the air, being colder, prevent the perfect combustion of the powder?—O. F. S.

3584. **Ilford Formula.**—Will any brother give me the Ilford pyro formula in 10 per cent. solutions, and quantity to use for developing?—J. J. B.

3585. **Alexandrian Blue.**—I am engaged in experiment on fresco work, and should be delighted to be able to obtain so fine a colour, or, failing this, the proportion of silicate of copper and of lime, and the proportions and manner of making.—WILLIAM FOUNTISS.

3586. **Wide Angle Lens.**—I want to buy a wide-angle lens. Which is best, an Optimus or Wray's? I have bought an Optimus R.R., and like it very much. Should like opinion on either of above.—J. J. B.

3587. **Burnisher.**—I have a $\frac{1}{2}$ in. Vever's burnisher; when I put my prints through, it lifts the print from the card. Have tried different heats, and have used gelatine mountant and starch, but to no use. Will any brother amateur tell me how to use his burnisher?—J. J. B.

3588. **Aristotype.**—Will any brother amateur tell me the best way to mount aristotype so as not to use the gloss? Shall be much obliged for any hints on above.—J. J. B.

3589. **Gaslight.**—Can photographs be taken in gaslight?—PHOTO.

3590. **Sensitised Paper.**—Can you please tell me why the sensitised paper turns yellow sometimes

after it has been in the toning bath?—SENSITISED PAPER.

3591. **Chloride of Gold.**—Can you please tell me how to get chloride of gold from old toning baths?—CHLORIDE OF GOLD.

3592. **St. Heliers, Jersey.**—Can any one please inform me if I can get the use of a dark-room for changing plates, etc.? Also if plates and necessary chemicals can be procured there?—B. B.

3593. **Gelatine Mountant.**—Will any one kindly inform me how to make a gelatine mountant that will not require melting down before use? and that will also not affect the gloss of Aristotype prints, similar to the one manufactured by Messrs. George Houghton and Sons?—E. J. TAPSON.

3594. **Dark-Room.**—Will any reader give me particulars how to make a cheap dark-room and the probable cost of one? All remarks will be gratefully received by MARIE DE MEUDON.

3595. **Gelatine.**—Is there any method by which gelatine can be made insoluble, plastic, and perfectly non-poisonous?—NIGER.

3596. **Focus.**—Will Mr. Geo. Ra'hone kindly say if he finds that by "taking out the back combination of a portrait lens and separating the components" the focus is shortened? Also in what position are the back lenses; is the convex back lens still next the ground-glass?—MEROI.

3597. **Hand-Camera.**—Kindly say which is best hand-camera for use with roll-holder films?—MEROI.

3598. **Photography in Germany.**—Is there any difficulty in getting camera and s x or eight dozen half-plates through the custom-houses in Germany and Bavaria? Can Ilford or other English half-plates be got in Munich? Is there any restriction to photography on the Rhine or in Bavarian towns?—PRESBYTER.

3599. **Book on Lenses.**—Can any reader tell me if there is a book on photographic lenses; if so, where can it be got, and what is the price?—FLUSH.

3600. **Lantern Slides.**—I wish to make a number of lantern slides from wood engravings and ordinary silver prints. I shall be much obliged if anyone will tell me the most suitable dry plates, lantern plates, developer, etc.? If possible I do not wish to intensify or tone the slides. Ought the maximum amount of contrast to be obtained in the negative or not?—H. C. L.

3601. **Lantern Slides.**—I should be much obliged to anyone who could give me some information about toning lantern slides, the best solutions, etc., for Thomas' plates, also which developer is most suitable. What is the best and surest way of cleaning covering glasses?—J. E. P.

3602. **Potassium Chloro-platinate.**—Will someone who has made the above give me directions for making it?—W. B. WOOLAND.

3603. **Shutter.**—Will anyone kindly advise me which shutter to get for general use? I do not want a very expensive one, but a serviceable one at a moderate price.—FINISTERRE.

3604. **Stereoscopic Slides.**—Amongst the slides for competition, I noticed one marked "Lower Falls, Rydal." I make bold to ask the owner if he would be kind enough to favour me with a copy of same, as I consider it a gem. Will gladly pay all expenses.—F. DART (address with Editor).

3605. **Light Camera.**—Can anyone recommend a camera light and portable, and at the same time capable of being used with portrait lens? Would Lancaster's International answer this description?—D. R.

3606. **Intensifier.**—After steeping in uranium I placed negative in 10 grs. to 1 oz. of potassium ferrioxanide. Result: Negative on drying stained a dark red, and film cracked in several places. Can any one tell me what is wrong?—D. R.

3607. **Blackening for Stops.**—Can any brother amateur tell me what chemical it is which is used for blackening stops. I do not mean the material usually sold by Tylar and others, and which is generally laid on with a brush, but a very simple solution into which the stops are dipped, and thereby stained black? I had the receipt in a paper which I had a short time since, but have unfortunately lost it.—L. LEEDER.

3608. **Perfection Lamp.**—Has any reader used Beahm and Froud's Perfection dark-room lamp? I have one, but am almost afraid to use it, as the light is so brilliant I fear it will fog a plate or paper.—G. H.

3609. **Halation.**—I wish to photograph the interior of a church, in which a large clear-glass window directly faces the camera. Will some brother amateur kindly tell me the best method of procedure, so as to escape halation, and much oblige?—CAM.

3610. **Collotype.**—Will some one kindly put me up to this process? I want, if possible, to prepare the plates myself, from my negatives of views, etc., so that I may use same in my printing-press.—G. H.

3611. **Toning Silver Prints.**—I have been using the acetate of soda bath for toning my silver prints, but the results have been very "mealy" and "wishy-washy" prints. Can any one tell me where I must be in error in my toning. Before toning I pass the prints through soda (common crystals), but cannot get a rich purple colour.—A CROWE QUILL.

3612. **Forrest's Due Ratio Shutter.**—Is this a

good shutter, and does it cause any vibration of the camera when in use?—SANTOS.

3613. **Dye for Canvas.**—Can any one give me a recipe for staining or dyeing canvas the same shade of brown as the ordinary canvas camera cases?—NIGER.

3614. **Easter Tour in Yorkshire.**—A number of friends think of visiting Adel, Yorkshire, and immediate vicinity, on Easter Tuesday. Will anyone kindly state particulars as to places of interest suitable for photographing?—G. K.

3615. **Bromide Paper.**—Would like to know the ammonia bath for bromide paper when using the hydroquinone developer, should yellow stains occur; the proportion of such bath; how made?—X. Y. Z.

3616. **Micro-photography.**—Can any reader of the AMATEUR PHOTOGRAPHER kindly tell me the difference between the chemical and visual foci in micro-photography? Also a good book on the above?—LUDER.

3617. **Reversing Back.**—Will any kind reader give instructions how to make a reversing back to a whole-plate camera, or lend me one to work by?—B. S. P. (Editor has address).

3618. **Amateur Starting.**—Will anyone kindly advise me as to the best mode of proceeding? Is it best to buy a whole-plate camera, and using frames for quarter and half-plate, or begin with half-plate? Also say whoso make and kind of camera and lens are best? I wish to take sea views and landscapes, as well as portraits, and wish to get a good instrument at start, so as not to require changing. Can this be done? Any information and other advice will be appreciated.—CHEMIST.

QUERIES UNANSWERED.

Feb. 21st.—Nos. 3471, 3476, 3478, 3491, 3493, 3494.

29th.—No. 3517.

Mar. 7th.—Nos. 3528, 3530, 3531, 3542, 3551, 3554, 3555.

14th.—Nos. 3561, 3566, 3575.

ANSWERS.

3353. **Lancaster's Special.**—Quite reliable, except the ground-glass, which is not at all satisfactory, but you can easily replace it.—J. H. MONTAGU.

3417. **Conveyance for Touring.**—The Multum in Parvo photographic portmanteau, made by Houghton and Son, High Holborn, would be a very good investment, and much better than any home-made apparatus. It is fitted with every necessary for developing, and will also carry camera and extra plates.—THE SMITH.

3417. **Conveyance for Touring.**—I fear an amateur photographer with a hand-barrow would appear very undignified, looking too much like the ferret portrait takers of Hampstead Heath. Better leave the development over till your return home, trying an occasional plate at night in your hotel or lodging-place. Of course you could hire a tricycle and use it, if the district you purpose visiting has good roads.—T. S. MAYNE.

3430. **Wide-Angle Lens.**—As you have an Instantograph which gives you satisfaction, why not procure Lancaster's half-plate wide-angle, which will screw into your Instantograph flange. I have in occasional use a pair of Lancaster's wide-angles in stereoscopic camera quite satisfactory.—T. S. MAYNE.

3435. **Photographing in Riviera.**—No restrictions, except in the interiors of churches, for which, in some cases, you require a permit. A small gratuity, however, will in most instances overcome this. One of my friends has lately been over the district you mention, and experienced no trouble. For an occasional trial development he used his bedroom at night. Provide yourself with some stout drawing pins. I should mention that at Monte Carlo you have no chance of obtaining photographs of the interior of the Casino; prohibition rigid, even for parcels.—T. S. MAYNE.

3437. **Object Glasses of Field Glasses.**—Write, enclosing stamped envelope, to J. A. Forrest, Esq., Alexandra Road, Birkenhead, an old and ardent amateur of forty-five years' experience. It was only last week, at a monthly meeting of the Birkenhead Society, he was explaining the subject you enquire about.—T. S. MAYNE.

3437. **Object Glasses of Field Glasses** are not suitable for mounting as a rectilinear lens. Apart from the difference of the foci of the visual and actinic rays, it would be found that the focus would be much too short for general work. For instance, a pair of lenses of 6 in. focus, which is about the average for field glasses, would, when mounted as a rectilinear lens, have an equivalent focus of not more than 3 in. They have, however, been used with some degree of success as landscape lenses, in which case they must be stopped down to $f/22$ or smaller, and after focussing the camera must be racked in a distance of about $\frac{1}{3}$ of the equivalent focus.—THE SMITH.

3441. **Rouch's Detective Camera.**—Time exposures can be effected. The camera is well made. The plates, after exposure, are lifted by an ingenious spring, and a light-tight flexible bag, then

removed to the back of the box. The lens is very good R.R., arranged and fixed for objects 20 feet distant. I consider it the best of this class of camera; it claimed most attention at the Crystal Palace Exhibition of 1889. One of my friends then bought one, which has given him every satisfaction.—T. S. MAYNE.

3452. Lantern Slides.—If "Novice" is now only trying for the first time making lantern slides by reduction, he will find the dry plates simple and easy to work. For twenty years I was a wet-plate worker, and although I look back with pleasure and delight on the happy days of youth (over thirty years ago), I should never think of returning to wet collodion. Try Mawson's lantern plates in Griffith's reducing camera or box, only 12/6 half-plate, give me excellent results; two minutes' exposure in the open diffused light. Use Thomas' hydroquinone formulae, full strength, for developer. As to comparative length of exposure, wet or dry plates, that is a matter of little moment when reducing.—T. S. MAYNE.

3454. Slide Exposure.—See answer to 3452; read also on page 76, March issue, *Optical Lantern Journal*, 1d., published at Salisbury Square, Fleet Street. The issue I quote treats specially of the subject you enquire about, but for a handy book of reference, Heworth's "Book of the Lantern," published by Hazell, Watson, and Viney, Ltd., 1, Creed Lane, Ludgate Hill, E.C., should be obtained.—T. S. MAYNE.

3457. Shutter.—The best shutter I have ever used is Newman's patent, working in the diaphragm slit between the lenses, capable of adjustment for any exposure between $\frac{1}{100}$ sec. and 1 sec., and also time exposures beyond 1 second. R. and J. Beck use it in their hand-camera. Sharp and Hitchmough, Dale Street, Liverpool, will quote and supply you with quarter-plate Newman shutter. They also manufacture the Paul Lange double curtain for very rapid exposures. Dark-room; gas lamp, Fallowfield's argand burner and ruby chimney; 4s. I believe I paid for mine. Metal binding for slides, good but somewhat expensive, 1s. 6d. per dozen; requires also a special cement, clamping frame, and pressing tool. When once bound are very neat and good for slides having to withstand much handling. Maker is W. C. Hughes, Mortimer Road, Kingsland, N.—T. S. MAYNE.

3457. Shutter, etc.—Lancaster's shutter is a very fair one. For diagram see the back of AMATEUR PHOTOGRAPHER.—J. H. MONTAGU.

3457. Shutter, etc.—The Thornton-Pickard would answer your requirements; price 18s. 6d. quarter-plate. It will give exposures from about $\frac{1}{100}$ sec. to any length. Messrs. Perken, Son, and Kayment make a gas lamp for dark-room, and the metallic binding slips for lantern slides may be obtained from Hughes, Mortimer Road, Kingsland, N.—THE SMITH.

3472. Cyanotype.—I think "Enquirer" will find that the proportions of ammonio-citrate of iron and ferridcyanide of potassium are not equal, but 1 to 2 to 1. The former is increased when the negative is very intense, or when greater intensity in the print is required.—THE SMITH.

3487. Exposure.—Wratten and Wainwright's instantaneous are quicker than Ilford ordinary. Wratten's have also a special drop-shutter plate, somewhat high in price, but certainly very good. Doubtless "E.W." is aware the Ilford Company also make an extra-rapid series, on which, however, somehow I have failed to obtain density. Mr. Paul Lange, one of the best amateurs I know, finds the same. He has taken all his medals, landscape and quick shutter work, using Ilford ordinary plates—I refer to his negatives—and he would not use any other. For myself, I like the Mawson plate, with their own developer, best of all. Some of the very best workers, Menzies, Gibson, Sutcliffe, etc., also give the Mawson plate the highest praise.—T. S. MAYNE.

3505. Pizzighelli Paper.—The Pizzighelli paper should not be made wet whilst steaming it, and if the negative is also quite dry, the paper will not stain it at all.—L. R.

3518. Photographs of Trains.—You could get them, I should think, at the London Stereoscopic and Photographic Company, in Regent Street or Cheapside, or else there is a shop in the Bayswater Road, just by Queen's Road, where they are all sold.—J. H. MONTAGU.

3529. Reducer.—The simplest way before toning is to use platino chloride in place of the gold salt. After toning, the prints should be soaked in a weak solution of cupric chloride if they are too dense. I think there is no fixing solution which is any better than soda hyposulphite.—SICILIAN.

3533. Over-Exposed Plate.—Do not add all the alkali in your formula at once. Add half at first, and if the image comes up sooner than in one minute, add a little bromide of potassium—very little should be added, for bromide is much more powerful with quinol than with pyro—and allow development to proceed slowly; add the remainder of the alkali to get density if necessary. If the image comes up in about one minute, add the rest of the alkali in two separate doses. If it does not appear in one minute, the plate is not over-exposed.—SICILIAN.

3537. Isle of Wight.—If "Nero" will write to me, I will give him my experience of a fortnight's

stay in the "garden of England."—SICILIAN (address with Editor).

3539. Precipitation of Bromide Paper Developer.—"Colonist" should not dissolve his ferrous sulphate in hot water, as it is in danger of being partly converted into ferric sulphate, which has no developing power. The reason why some of the salt has been thrown down is that one part of hot water can dissolve one part of the salt, whilst the same quantity of cold water can only dissolve $\frac{2}{3}$ part. It does not matter in the least about there being crystals in either iron or oxalate bottles. In fact, they are good indications that the solutions are saturated, and the bottle should be filled up with water as fast as the solution is used, until the crystals disappear from the bottom, when more should be added.—SICILIAN.

3544. Plates.—Write Ilford Company direct; enclose envelope. They will let you know no doubt where in Antwerp and Brussels you can obtain Ilford plates.—T. S. MAYNE.

3545. Angle of Lens.—My reply was wrong, and I apologise for same. I was thinking of the size of the picture resulting from the greater covering power of the larger lens. Many thanks to those who corrected my error.—E. J. FEILDEN.

3548. Stereo Slides.—The glass stereo slides are either on wet collodion or on slow bromide plates, such as lantern slides are produced on. "Stereo" can get these from W. T. Chadwick, St. Mary's Street, Manchester, who makes a speciality of stereoscopic apparatus.—SICILIAN.

3555. Opal Printing Frame.—See "Year Book of Photography" for 1889, page 189.—THE SMITH.

3557. Fitting Lens with Rack and Pinion.—You would have to get an entirely new mount for your wide angle combinations, and also sacrifice the iris diaphragm. Is it worth while?—THE SMITH.

3558. France and Italy.—No permit is required, and the officials at the custom-houses are very polite. There is no trouble whatever with plates. It simplifies matters to use labels written in various languages, which are sold by some dealers.—A. J. CROSS.

3560. Brighton.—It depends on choice of subject. Light is always better at the seaside, and quite good enough for any amount of instantaneous work, providing suitable subjects are found.—SUCCESS.

3560. Brighton.—(1) Yes. (2) It all depends upon the weather. If it is bright and sunny, Ilford ordinary will do; if lens is not stopped down too much.—SUNLIGHT.

3560. Brighton.—Very good for hand-camera work. If "J. F. T." will call on me, I will give all information, etc.; address with Editor.—C. HETHRON LEWIS.

3560. Brighton.—I should think that camera would do very well for Brighton. Use Fry's or the Ilfords.—J. H. MONTAGU.

3562. Hand Camera.—Both the Ideal and the Victor hand-cameras are good, but I prefer the Ideal. It is light, small, and the shutter is excellent. There is only one movement, and no focussing. The makers informed me that any lens could be fitted. It is so novel that it is well worth seeing.—A. J. CROSS.

3562. Hand-Camera.—The Ideal is better than the Victor, being handier, lighter, and the method of changing the plates is better. The Ideal has a short-focus lens, everything being in focus over 10 ft., while the Victor has a lens of long focus; and nothing under 27 ft. is in focus. After examining a great number of hand-cameras, I came to the conclusion that the Ideal was the best in the market.—G. F.

3563. Lens.—Ross's rapid symmetrical lens for groups, views, architecture, and general out-door work; as I wrote last week, nothing but praise can be accorded to it. See also answer to 3495, last week.—T. S. MAYNE.

3563. Lens.—Ross's rapid symmetrical, not Rectigraph, is a splendid lens for all-round work. You could not do better.—SUCCESS.

3563. Lens.—Ross and Co. do not make any lens under the name of "Rectigraph." Are you sure it is a Ross lens?—THE SMITH.

3564. Mountant.—Ordinary commercial gum is not suitable for mounting silver prints, as it is generally acid. Gum arabic mucilage is very suitable, but it will not keep for long. I do not know of a mountant that will answer all your requirements. I always use starch paste; it is the best mountant, and will keep for seven or eight days. If a number of small packages of the ingredients are made up, it is a matter of one or two minutes to make up a fresh lot.—SUNLIGHT.

3565. Pizzighelli Paper.—You can use this either with or without preliminary steaming with equally good results; but it must be steamed after printing, and before clearing.—W. B. WOODLAND.

3565. Pizzighelli Paper.—You have been misinformed. Liesegang's Pizzighelli platina paper is exposed under the negative to light until all details are visible, and it is then exposed to the vapour of hot water, which turns it to a black colour.—SUNLIGHT.

3565. Pizzighelli Paper.—This paper does require steaming, or something kindred to steaming, before printing; but I have never found any staining of negatives from it, although I have used it for some time now, both with varnished and unvarnished

negatives, but it is not on the whole satisfactory, and I am giving it up.—POOR CHINEE.

3567. Enlarging Lantern.—Lancaster's Multum in Parvo camera, for enlarging up to 12 by 10, copying, or reducing; is only 30s. I believe you will find daylight working more satisfactory. Unless you require the lantern for showing slides very frequently, why not hire occasionally a lantern, a single one, with oxygen cylinders? See 3570 about screens.—T. S. MAYNE.

3567. Enlarging Lantern.—I do not think that Mr. Bennett will get a lantern to answer both his requirements satisfactorily, and for this reason—if the condensers are large enough to cover half-plate, I should not expect them to transmit enough light through a $3\frac{1}{2}$ square to properly illuminate a screen of sufficient size. I have seen it tried, but with very poor results. A remark of Mr. A. Pringle's, on page 174 of last week's issue, might be quoted here: "Condensers cannot be too small consistent with reasonable covering of the slide."—F. W. L.

3577. Enlarging Lantern.—You cannot do wrong if you get Hughes' Pamphengos. If you got one working a larger plate than lantern size you could easily make it take that size by fitting carriers, and use it for ordinary slides.—SUCCESS.

3578. Instantaneous Work.—The ordinary plates are plenty rapid enough for most shutter work.—W. B. WOODLAND.

3583. Instantaneous Work.—Red label, of course, as the others require longer exposure, and, although you might occasionally get one of the others sufficiently exposed, the chances are you would have a large number of failures in consequence of under-exposure.—SUCCESS.

3588. Instantaneous Work.—In ordinary light the special (red label) plates are necessary, but if the light be very good, such as at the seaside in summer, the "rapid" plates will be found to act perfectly well.—F. L. A.

3588. Instantaneous Work.—You will only get good results with Special (red label).—J. H. MONTAGU.

3570. Lantern Objectives.—I think the 21 ft. picture is rather large, and believe you will get a better picture if you only make a 15 ft. disc, with the 6 in. lens. In practical working, I used last week a 12 in. lens, giving about a 15 ft. picture some 6 ft. off the screen. I was right at the back of an audience of 1,100. Many have an idea that the larger the screen the better, no matter about the size of the room; this is a mistake. Another false idea is, it matters not how thin the screen is so long as it is white. Try this experiment with a simple old-fashioned white screen: attach a large piece of white cardboard to the back of the sheet, then throw the light from the lantern on the face of the screen. You will find where the cardboard is it will show an intense white patch, and the other part will be quite grey in comparison. Mr. Andrew Pringle, in his address on the "Optical Lantern," at the Camera Club, on the 6th inst., refers strongly to the nature of the screen—25 per cent. of the light may be lost to the observers with a bad screen. Refer for full report, *Photographic News*, March 14th, p. 211.—T. S. MAYNE.

3571. Some Points about Lens.—The best reply to this will be for "N. M. H." to get the AMATEUR PHOTOGRAPHER for March 1, 1889, and he will find full information there, in my paper on lenses.—C. HETHRON LEWIS.

3572. Hand-Camera.—Yes; and the best thing "N. N." can do is to get the detective case supplied by J. Lancaster and Son, to carry quarter-plate; Instantograph, price £1 1s. It includes the shutter.—F. L. A.

3573. Lantern Slides.—Most certainly they ought to be varnished. There are many advantages, the most important of which are protection from damp and the filling up of scratches on the surface of the film.—SUCCESS.

3573. Lantern Slides.—No; there is no need to varnish the lantern slides before binding them, as they are perfectly protected from harm by the glass in front, and it is only a waste of time, trouble, and varnish.—F. L. A.

3573. Lantern Slides.—It is best not to varnish them, as, if at any time you wanted them coloured, there would be a trouble in removing the varnish, a procedure the colourist would object to. If they are not to be coloured, it is better, though not a usual practice, to varnish them.—A. J. CROSS.

3573. Lantern Slides.—All the text-books advise varnishing, but I never do so, and have some taken five years ago which were not varnished, and are as good now as ever.—C. F. S.

3574. Hand-Camera and Lenses.—Taylor's lens I can personally recommend. If absolute sharpness is wanted without focussing, then the 4-inch focus lens is best, but it gives small image unless close to object. I prefer 5 in. focus and a focussing scale on camera.—C. HETHRON LEWIS.

3574. Hand-Camera and Lens.—I can strongly recommend "Carlsbad" to try Fallowfield's Facile hand-camera. It has the most simple and reliable form of plate-changing I know, and each plate is certain to be in accurate focus. The lenses fitted to the Facile are splendid for lantern-slide work, but no doubt Fallowfield could fit Taylor's or any other preferred. "Carlsbad" should write for specimen prints.—ZENO.

3574. Hand-Camera and Lens.—(1) It is hard to

recommend one as being superior to others, there being so many excellent ones in the market now. I use one of Abraham's, and find no fault with it. Am most successful. (2) The plate-dropping style is reliable, and kept in register. (3) Taylor's are very excellent lenses.—SUCCESS.

EDITORIAL.

NOTE.—Anyone requiring an opinion upon photographic apparatus, plates, etc., must give a number or initial for identification, as in no case will makers' names be inserted in this column.

SPECIAL NOTICE.—We are very pleased to find that replies in this column are so much appreciated, but we should be very grateful if those requiring advice would send their letters to us BEFORE TUESDAY MORNING'S post if possible. The time occupied in replying in this column is very considerable, and owing to the often late receipt of letters, many matters have to be left over each week. This we much regret.—ED:AM:PHOT:

JOHN PRIE.—You will note that we insert your letter. The cutting re "Experiments with Oxygen Cylinders" came to hand from several correspondents.

H. H.—We think there is a great deal of correctness in the dealer's advice. There is no hand camera of any service which contains more than twelve plates.

R. E. D.—Hand camera No. 1 is not yet in the market. 2 and 3 are both good cameras, and are both worth the money asked for them. 4 is complicated in construction, and we have had no opportunity of testing it. 5. Have never seen this apparatus. 6. This is a thoroughly reliable instrument, and we have every confidence in advising you to purchase if you want a cheap and useful hand camera. 7 and 8. We know very little of 7; is well spoken of. 9. This is a very useful and compact camera, and you should see it. 10. Very handy and well made. Summing, we would place them in this order: 6, 9, 10, 2, and 3. Question 11. Very excellent enlargements are made from the films. We should advise lens No. 12.

BANSEER.—Should not think any great benefit would come by the exchange. Very good work is possible with the one you name. For a lady we should advise hand camera No. 2; it is very handy, and not obtrusive. No. 1 is cheaper but much more bulky, still a most reliable instrument.

J. SHAKESPEARE.—Two of your slides were shown on Friday, and two on Saturday; sorry not to have had the pleasure of meeting you.

W. H. SCOTT.—Your compliments and kind expressions upon our efforts are much appreciated.

SIGMA.—Either faulty paper, or more probably flare spot. The photograph is up to about the average of beginners' work.

E. NORTHCOTT.—We thank you for your letter; the opinions expressed do not quite coincide with ours; no doubt the work you contribute to our next competition will be of a higher standard.

J. WALLIS B. MASON, M.D.—The suggestion contained in your letter shall have our attention. Glad you consider "Home Portraiture" the best yet brought out.

H. FERRIER-KERR.—Either B or D; as you give a limit in price, would you like us to select for you? Your remarks upon the QUARTERLY and "Prize Pictures" are very encouraging.

ROBERT HARVEY.—The quotation is probably from a paper called "The Magic Lantern or Optical Enlarger;" you would probably be able to obtain a copy of any photographic dealer. If not, we will endeavour to procure it for you.

ATHENIAN.—We do not know anything of the camera. You had better advertise in the Sale and Exchange column. There are generally many offered for sale.

X. Y. Z., CONSTANT SUBSCRIBER.—The apparatus you did use was by a first-class maker, and far in advance of the A and B, still you may do good work with A, which will come within your price. Good pictures are taken with detective cameras, but we should not advise you as a beginner to start with one. There are many "sets" offered in our Sale and Exchange columns that would suit you.

PHONO.—We should advise in the following order: D, C, B. (1) The euryscope form of lens may be used for practically the same as the rapid rectilinear, and works with a larger aperture. (2) Some workers uphold the qualities of the Jena glass, but it is an open question whether the lenses made of it have any very distinct advantages.

HENRY G. CLARK.—The less trying would certainly be orange or canary medium, a very safe light. We should work by diffused daylight rather than by any form of artificial light in the dark-room. We know of no special precautions; with canary medium much more light is possible than with ruby.

MARIE DE MEUDON.—We should advise you to buy No. 1. Send 75d. in stamps to Messrs. Peasegood and Wollaston, Photographic Exhibition, Crystal Palace, and they will forward catalogue. Many thanks for the cutting. Your query is inserted.

L. RIDLEY.—We do not care for either, but consider A the better of the two.

J. W. GAMSON.—We should advise for the purpose H, the R.R. lens.

TORPEDO.—Later on we will let you know what we think of your photograph. (1) If you want it for both purposes, have the "group size," 8½ by 6½. (2) No advantage, except that your plate will be certain to be covered sharp to the edges. (3) Unfortunately there is no uniformity either in sizes or threads, and we question very much whether the two lenses you mention would fit the same flange. You will probably have to make a new front.

JOHN H. MONTAGUE.—Cannot recognise your reference to query.

G. H. G. CARMICHAEL.—We will endeavour to send you a copy as requested; your letter has been sent on to Mr. Mayne.

R. P. VULLIAMY.—We shall soon take the matter up. What has your query about quarter-plates reference to?

THISTLE.—The conditions of our "Travelling Studentships" are in the printers' hands. (1) On no condition will photographs be eligible that have been exhibited at any exhibition, or entered for any competition, open or otherwise. (2) We will certainly look up the photographs; sorry you should have had any difficulty in previous competitions. (3) We must, of course, accept your statement, and can only say that such being the case you have a most remarkable picture. We shall take an early opportunity of calling Mr. Robinson's attention to the picture.

REX.—Your photographs are very promising. No. 1: The landscape is well chosen, rather lacking in definition; you should have used stop f/16. No. 2 is a very fair picture, but your lens does not cover sharp to the edges, and your photograph is not so bright as it should be. No. 3: Your portrait study is badly posed, and taken too full face. You will do well to study Robinson's "Picture-Making by Photography." We have no doubt that with careful study and more practice you will soon be able to send us much better work. We should advise you all this season to confine yourself to (1) landscape and (2) landscape with figure.

REGINALD BENNETT.—The lens you left with us has been laid by. It is an old-fashioned single portrait lens, and only worth a few shillings. The definition is very poor. We should think it would not cover more than quarter-plate. Many thanks for your opinion of "Home Portraiture." Glad to hear that the prize pictures "adorn the walls of your rooms."

F. R. C. S.—We have your MS., and will take an early opportunity of perusing the same. From a very casual glance we think it will be admirably suited to one or other of our publications.

A. CORNISH (Quimper, France).—We have handed over the cash in our hands to the firm named in your communication.

S. G. J. PARKEN.—The lens is a very fair all-round instrument, and if worked with, say, f/8, would be serviceable for instantaneous work. It is a lens that you can do most work with. We are returning it to the address named.

E. BECK.—See reply to "Thistle." The whole of the work must be done for us alone, and never entered any competition of any kind; so you will see no medalled or unmedalled work is eligible that has been exhibited. The rules and conditions shall be sent you, and we shall be very much obliged if you will send in a list of likely competitors in your Society, and they shall have a copy sent them.

JOSEPH CHAMBERLAIN.—At once, on receipt of paper, it shall be set up. The Crystal Palace Show is dealt with at some length this week. See "Our Views" on the question of the Societies, and the professional and amateur.

REV. H. J. PALMER.—Shall be glad to hear from you when quite convalescent.

J. H. TAYLOR.—We have looked up the reversing head, and are sending them by rail.

ALEX. KEIGHLEY.—See reply to "E. Beck" and "Thistle."

WM. FURNISS.—Am afraid we cannot help you. The note came to us as news, but have inserted your letter as a query.

C. F. DAVIS.—We have your MS. for REPORTER, and will submit proof. One of the series might well appear every month. About the pamphlet, we will write you later on.

NIGER.—"Picture-Making by Photography." Afraid we don't deserve half you say of us, but we shall continue to do our best. Your letter is very encouraging.

REV. E. F. POPE.—You will see we have made a special appeal. Very many thanks for your opinion of 4½ years of AMATEUR PHOTOGRAPHER.

DEVONIA.—We shall be pleased to see you at Creed Lane next Tuesday between 2 and 5 p.m., and shall be at the Crystal Palace on Saturday next from 5.30 to 8 p.m. Our whereabouts will be found on application to attendant at AMATEUR PHOTOGRAPHER stall. Delighted to see your work.

T. B. JUDSON.—We thank you for your letter. The report appears under "Societies' Meetings." Our publishers will be pleased to send you a packet of specimen copies for distribution if you would take the trouble. Perhaps you would send us some of your work to criticise.

REV. ANDREW JOHNSON.—You will be pleased to note that Mr. Mann's photographs, which you so much admired, have received an award at the hands

of the Crystal Palace judges. Our editorial upon them practically answers your questions. It is kind of you to say, "As a very ancient practitioner of photography, I must thank you for your admirable periodical."

ALEX. PITKETHLY.—We will write you in a few days about the Forth Bridge pictures, and send a medal, etc.

A. D.—Use a screen of tissue paper between sitter and the flash-light apparatus.

R. L. F. H.—The firm have never afforded us an opportunity of inspecting the shutter you name, or the set. We never advise, except we have had the apparatus in our own possession. All apparatus submitted to us by makers will be returned within fourteen days, but we cannot report upon photographic apparatus that we have never seen. It is our rule never to recommend apparatus upon hearsay. Glad you were pleased with AMATEUR PHOTOGRAPHER slides at the Palace.

B. S. P.—Do not know such a firm.

ROBT. L. WALKER.—If you buy C, you will have one of the best all-round lenses in the market. They are thoroughly reliable.

FRISTERRE.—It would be rather unkind of us to criticise your first efforts, but we will be merciful. (A) The angle of conservatory should not have been in the picture, and you have fogged the extreme right hand corner. The view is not well chosen, and "doggie" is sadly mutilated. Stop used and exposure about right. (B) Why use so small a stop as f/84, and why include on your plate the window-frame? We are surprised that you should have got so good a picture, seeing that the camera was in the room and that the photograph was taken through the window. With the stop used you might very well have prolonged the exposure. (C) Almost everything is out of focus. Your subjects are none of them good. We should advise you to read up, say, "Photography for All" (Harrison), or Burton's "Modern Dry-Plate Photography," and then study "Picture-Making by Photography" (Robinson); you will then soon acquire a knowledge of how to take a photograph, and what constitutes a picture. Your prints are returned.

CHUBB'S PATENT.—The entry forms have or will be sent you. Yes, on mounts, not cards. You may mount them yourself when sending in to the "Ladies' Competition," or have them mounted for you.

GEO. R. JOHNSTON.—We note the formation of the Club.

RUSSELL.—We should advise you to have the R.R. lens that is sold with the camera. You could rely upon the firm to sell you an article that would give you satisfaction. Many French lenses are well worth the money asked for them, but as a rule they are corrected and tested as English lenses are. We shall be very pleased to "loan" you lantern slides for another occasion.

MRS. ARKCOLE.—Prints sent in for the "Ladies' Competition" may be "landscape or seascape, landscape with figure, genre or figure study." The competitors may select either subject, or contribute prints in each subject.

J. HENRY HARDY.—Your opinion of "Home Portraiture" is very flattering. (1) It is not wise to exhibit lantern slides made from pictures that have been copyrighted. You had better apply for consent, it is almost certain to be granted. (2) Certainly; if you go in for one, have the larger size. We have seen some very excellent work done with it, and the larger size has distinct advantages over the older type of camera.

W. W.—No. 2.

S. H. EARNEST.—Have no knowledge of the lenses or the maker.

JOHN A. E. LANE.—We know nothing of A, but do not think the firm are makers. B, one of the best lenses in the market; C, a most excellent shutter.

PINEOTOS.—You will do well to have C or D, both good shutters.

W. T. GREATBATCH.—You do not say whether the colour is after or before exposure to daylight.

THOS. ROCHE.—Will see if we can procure you the stereo slide you wish to have.

F. S. S.—Will reply to you later.

G. W. SWINERTON.—Thoroughly, a first-class camera for the money.

T. C. BAKER.—We will write to the competitor, and try and persuade him to let you have a copy of the stereo slide. Glad to hear that the exhibition of them in your town gave so much satisfaction.

A. C. L.—Fairly well, but a long way off "Monthly Competition" standard. Yes, you will be able to do much better with the apparatus that you have. You have not enough gold in your toning bath; increase it, and you will get a better colour.

TYRO-TYRO.—We can thoroughly recommend you to buy No. 6. It is in every respect a most excellent H.R. lens, and worth all the money asked for it. No firm turns out better work. Delighted to hear your good opinion of the AMATEUR PHOTOGRAPHER.

ZINKENITE.—No. 1 is an exceedingly good portrait lens. We do not think No. 2 is worth the extra money.

LANTOS.—Very glad you are satisfied with our advice as to lens. Our publishers would tell you about postage of REPORTER. The shutter you ask about is a very fair one for a cheap shutter. We can show you one if you like to call.

GEO. HEMMING.—The papers read at the Camera

Club Conference yesterday and to-day will be published in a special number of the *Camera Club Journal*, price 1s.; we think the Hon. Secretary, Mr. G. Davison, will be pleased to see that a copy is sent when published, and on receipt of stamps. Our publishers will procure you a copy of Wilkinson's book, but cannot say price. There is a capital book by H. C. Middleton, published at 5s., that might answer your purpose.

A. HOWARD SHORT.—Do not know the camera at all. The firm is another of those who do not consider that it is to their interest that we shall see all the new apparatus they bring out.

G. N.—Undoubtedly, certainly not. If we can return the slides we will, but cannot promise.

CHEMIST.—We never gives names; see our rule at the head of this column; if you comply with it, we shall be delighted to help you.

W. A. WHISTON.—Sorry to hear that the camera you have tried is a failure. Why? The handiest are certainly 3 and 7. Never heard of a roll-holder being fitted to the latter. The method of changing plates is exceedingly simple, and it has a right to the title "detective" camera.

P. R. S.—If you want a lens to do all-round work such as you name, you should have an R.B. The one you name is probably of French manufacture, and, for the money, is about as good as you can expect.

Monthly Competition.

We have received the following entries for the next Monthly Competition, "Landscape with Figure" (No. 10):—

Title of Print.	Name of Sender.
Bouldner Park	Lieutenant Stuart Nicholson
At Carthage, Spain	Cecil V. Shadbolt
View near a Cottage	Wm. Burrows
Evening in a Staffordshire Lane	Frank Udall
Epping Forest	Miss A. H. Lloyd Roberts
Boating Picnic, Barcombe, Lewes	Mrs. Margaret Cole
In the Silchester Woods	H. H. Sealey
Reeding, River Adur, Sussex	A. L. Spiller
A Gloucestershire Harvest Field	James Drew
Snowscape	A. Steiglitz
View on Ballygrant Lock	A. Ferguson
Rising	S. M. Hancock
Near Instigoe, co. Kilkenny	W. H. Scott
By the Esk River	D. R. Clark, M.A.
A Bright Scene	L. W. Tindal
Within a Mile of Edinburgh Toon	R. A. Rayner
An Itinerant Photographer	T. Edwards
The Forthcoming Boat Race: Ten to One on Cambridge Children on Village Green at Bachelor Lane	Miss M. J. Hands
A Wayside Cross, North Devon	Mrs. Louisa Macdonald
The Gentle Craft	W. J. Kidd
Abinger, Surrey	C. Greene
Going Home, St. Chad's Church, Lichfield	A. C. Hunter
"Now is the Winter of our Discontent made Glorious Summer"	F. H. Davies
A Favourite Pool, on the Medway	Miss Louisa Maw
Croft Land, Isle of Lewis	Rev. Harvey Brooks
A Garden in Old Hampstead	J. G. Maclean
In the Wood	A. J. Ashmore
	A. Crowshaw

Sale and Exchange.

RULES.—Fourpence for twelve words or less, and a penny for every additional three words, must be enclosed with each advertisement, together with the name and address of the sender, which must be paid for, and sent to Hazell, Watson, and Viney, Ltd., 1, Creed Lane, Ludgate Hill. Halfpenny Stamps preferred. A single figure, or group of figures undivided by letter, space, stop, or *uo*, counts as one word; compound words count as two words.

REPORTING UPON APPARATUS.—The Editor of the *AMATEUR PHOTOGRAPHER* will be pleased to report, to any intending purchaser, upon apparatus etc., offered for sale in the "Sale and Exchange" column, provided such apparatus, etc., is forwarded by the seller to him to the offices of the *AMATEUR PHOTOGRAPHER*, 1, CREED LANE, LUDGATE HILL, LONDON, E.C., free of charge. The intending buyer to pay a fee equivalent to a commission of 2½ per cent. upon the sale price of the apparatus, etc. The publishers will undertake the packing and sending of all goods at the cost of the seller. As far as possible, the Editor will undertake to send a report within two days of receipt of goods.

DEPOSITS.

Deposits for goods to be forwarded on approval may be made with our Publishers, who will hold the

amounts deposited until they are satisfied that the transaction has been executed to the satisfaction of both parties. Cheques and Post Office Orders should be made payable to Hazell, Watson, and Viney, Ltd. A nominal charge of 1s. is made whether a sale is effected or not.

N.B.—Trade Advertisements cannot, under any circumstances, be inserted in this column. Such advertisements can be inserted elsewhere at the *Trade Sale*, which may be obtained on application to Parry and Crawford, 1, Creed Lane, Ludgate Hill, London, E.C.

Air Pistol.—Nickel-silver air pistol, nearly new, in box, with dozen darts; cost 17s. 6d.; only 10s., or exchange couple of dark slides.—F. Armitage, Montague Road, Sale, Manchester.

"Amateur Photographer."—163 numbers, 8s. 6d. the lot.—Frank, 63, Gayhurst Road, Dalston. Eighty numbers to date; price 5s.—Seymour, Fennel Street, Manchester.

Apparatus.—Optimus 5 by 4 portable symmetrical lens, £1; 5 by 4 Plunge shutter, 15s.; both as new; quarter-plate Kouch's pocket camera, six double backs, 50s.; three-fold cyclist's stand, 10s.—G. E. Franklin, Rickmansworth.

Apparatus, etc.—Capital half-plate Instanto lens, 8s.; Forrest's due-ratio shutter to fit same, and extra adapter to fit Optimus R.R., 8s. 6d.; capital changing-bag, 6s.; half-plate tanned canvas camera case, with handle and straps, 7s.; and splendid triangular d-veloping lamp, with yellow and ruby glasses, all in capital condition. Also what offers for *AMATEUR PHOTOGRAPHER* from September, 1888 (including two special numbers), "Photography" from No. 2, both to date (one or two wanting) three annuals, and Abney's "Negative Making" 2—Findlay, 4, Cambridge Drive, Kelvinside, Glasgow.

British Journal of Photography.—1887, all complete. What offers?—Sherwood, 57, Blenheim Road, Reading.

Burnisher.—Marion's 3 roller, hot and cold, burnishing machine, just done up, as new, by maker; cost £6; offers wanted; approval.—Logan, St. Oswald's House, Tenby.

Cameras.—Lancaster's half-plate Instantograph camera, double dark slide, and stand, in perfect condition; 2 guineas; new last August.—B. S. Proctor, North Road, Cobridge.

Lancaster's half-plate, double-slide, three carriers, and one front (International), cost 19s.; cash 10s.—189, Southampton Street, Reading.

Superior camera and three slides for 5 by 4 and quarter-plate, in black case, perfect condition; 60s.; cost £7.—Bell, 4, Milton Terrace, Belfast.

Cameras, etc.—Quarter-plate Sciopticon camera, with four double slides, in enamelled leather case, five extra slides, and Manx stand, all in perfect order; cost £6 10s.; price £4 5s.—B. Boothroyd, Southport.

Shew's quarter-plate Eclipse hand-camera, three double backs, finder, focussing screen, canvas case and detective case, with horizontal and vertical finders; £5; cost £7 10s.—Dr. Winter, Station Hospital, Gosport.

Half-plate camera, by Lancaster, 1889 patent, reversible back, double slide, nearly new; has given splendid results; £2 14s.—P. Galley, Fern House, Murchison Road, Leyton, Essex.

Half-plate camera, three double backs, and tripod, in case complete, double lens, dishes, etc.; £4 10s.—Rev. F. Drew, St. Thomas' Street, Portsmouth.

Camera Case.—Camera case, leather, cheap, carry nine articles.—Adams, Hermitage Mews, Stamford Hill, N.

Camera and Lens.—Optimus detective camera, cost 6 guineas, price 3½ guineas; also Beck's 8 by 5 R.R., Iris diaphragm, cost 85s., price 65s.—Photo, Cotes Hall, Ecclesall, Staff.

Camera, Lens, etc.—Half-plate International, three double backs, wide-angle rectilinear lens, tripod, solid leather case, only used a few times; cost over £7; will take £4 10s. Quarter Excelsior set, swing and reversing back camera, four double slides, rapid rectilinear and a landscape lens, pneumatic shutter, and tripod complete; will exchange for portable stereoscopic set with moveable screen; difference in cash if first-class set.—Amateur, 1, Wellington Road, South Shore, Blackpool.

Camera, Slides, etc.—Whole-plate camera, all movements, with wide-angle adjustment, six double metal slides; price £5; new last December.—Apply, Bucknall, Francon, Kidderminster.

Camera Stand.—Alpenstock quarter-plate camera stand, Kouch's new; 15s.—Crump, Worcester Lawn, Gloucester.

Enlarging Lantern.—Optimus enlarging mahogany-body lantern, 7 in. condensers, four carriers, fitted with limelight, comprising high pressure gas jet, two 9 ft. gas bags, pressure boards, tubing, in n retort, quite new; £12; no lens.—Geo. Potts, Carlyle Road, Chesterton, Cambridge.

Changing Bag.—Half-plate changing bag, new last month; cost 10s.; will take 8s.—G. Fitch, Clovelly, Mayfield Road, Moseley, Birmingham.

Hand-Cameras.—Half-plate Beck's detective camera, six double slides, been used twice; cost 17

guineas; will take 12.—Edwd. Edwards, jun., 24, renchurch Street.

Kodak detective camera, equal new; cost 105s.; price 75s., or exchange with cash for Voightlander's half-plate rapid Burscope.—Bygrave, 15, Canterbury Road, Brixton, S.W.

Kodak, with about 75 films; price 60s.—Gerald Letts, St. Ann's Vicarage, Stamford Hill, N.

Lantern.—Magic lantern, will enlarge 4 in. condensers, splendid lens, three-wick lamp in box, 31 photographic slides, Conway to Bettwys, lightning slide holder, all new; 50s. the lot.—Smith, jun., 76, High Street, Wavertree, Liverpool.

Lenses.—Optimus Burscope, 7 by 5, perfect, 75s.; Apts view lens, 8½ by 6½, 17s. 6d.—Hall, 110, Ulleswater Road, Lancaster.

Optimus Burscope, 7 by 5, good as new; 70s.—Hodgson, First Avenue, Sherwood Rise, Nottingham.

Optimus 7 by 5 wide-angle portable symmetrical lens; cost 52s. 6d.; take 39s. 6d.—Hawkins, Waverley Estate, Farnham.

Exchange Lancaster's whole-plate Instantograph lens and 25s. cash for whole-plate camera and slides.—Day, 35, Berger Road, Homerton.

Suter's 3B aplanatic 9 in. E.R.; 60s.—Summers, jun., 28, Cheapside, London.

Lenses, etc.—For sale, Optimus Eurscope, 9 by 7, new, 75s.; Meldola's "Photographic Chemistry," new, 4s. 6d.; "Photographic Answers," parts 1 and 4, 1s. each.—Day, *AMATEUR PHOTOGRAPHER* Office.

Lancaster's quarter Merveilleux lens, stand, two slides, 18s. 6d.—F. Bean, Snaith, Yorkshire.

Lens, Camera, etc.—Cabinet lens and half-plate bellows camera, £3 10s., 15 by 12, bellows, camera, and one double slide, 30s.; whole-plate camera and three double slides, 35s.; wants half-plate or 10 by 8 camera and slides.—J. Herbert, Shady Lane, Driffield.

Lenses with Shutters.—Ross' 9 by 7 rapid symmetrical, with Newman's shutter; £6 10s.; approval, deposit.—G. Fell, 3, Tressillian Crescent, St. John's, S.E., London.

Lancaster's 2½ lens, quarter-plate, instantaneous shutter to fit, 3½ in. condensers, with front lenses, no reasonable offer refused; cash.—Walker, Balance Street, Uxeter.

Metal drop-shutter, 2 in. hood; cost 10s. 6d.; 5s. rectilinear quarter lens by Marion, 13s.; quarter single lens by Ross, old pattern, 8s.; all good order.—Brotherton, Cultercoats.

Lens and Slide.—Optimus 6½ by 4½ ordinary portrait lens, condition as new, 38s. 6d.; whole-plate new mahogany slide, 10 by 7½ by 1½, 10s.—G. Adams, 121, Catherine Street, Doncaster.

Pathological Slides, by Cole, for microscope; exchange for others, general subjects.—Becher, 15, Jermyn Street.

Sets.—Lancaster's quarter Instantograph 1889; six double dark slides, tripod lens, shutter, etc., complete, 45s., quite new.—F. G. Paterson, 20, Bassett Road, Notting Hill, London.

5 by 4 square mahogany camera, with leather bellows body, lens by Scovill, New York, folding tripod, one double slide; 25s., or exchange to value. Approval, deposit.—Henry Ridley, 14, St. Thomas's Road, Hastings.

Whole-plate camera (splendid condition) reversing back, and all movements. Three double dark slides, Ross's rapid symmetrical lens, Caldwell's shutter fitting the same, solid leather case; the whole cost £18 5s.; would accept £14, or sell separately; camera and three slides, £6; lens and shutter, £7.—No. 50, *AMATEUR PHOTOGRAPHER* Office.

Half-plate set, cost over £10, price £4 10s.; handsome bridge accessory with background and water-piece complete, 40s.; handsome terrace accessory, 25s.; photos two stamps.—F. P., 2, Peter's Street, Dereham Road, Norwich.

Lancaster's instantaneous lens and shutter, Iris diaphragms; also Tylar's window shutter to fit, as new, price 12s. 6d.; approval; deposit.—Sharland, Santos Road, Wandsworth, S.W.

Shew's box hand camera, with Eclipse lens, finder, changing bag for 12 quarter-plates, finder, and Watson's cyclist's tripod, only used once; cost £7 10s.; price £5 10s.—Camera, 31, Glenam Road, N.B.

Half-plate Instantograph, lens, shutter, tripod, double slide, and carrier, 1890 pattern, used once; 70s., or exchange good quarter set, with or without cash.—A. J. Doyle, Dacre House, Lee.

Quarter-plate Instantograph, square leather bellows, Meritoire lens, complete, with extra double dark-slide and printing frame; 25s.—By letter, Heckmott, 23, Cromwell Place, S.W.

Lancaster's half-plate Instantograph camera, with excellent single lens, shutter, three double backs, in canvas bag, and folding tripod in canvas bag; £4 10s. Also Ross' No. 4 portable symmetrical lens, 6 in. focus; £3. J. Walker, 132, Lansdowne Road, Didsbury, near Manchester.

Half-plate leather bellows camera, reversing swing back, lens, slide, tripod, turntable head, 45s.; also Lancaster's half-plate rapid rectilinear lens (new), Iris diaphragms, 50s.—Owen, Kimbolton Court, L.minster.

Camera half-plate Instantograph, 1890, fitted latest improvements, and in very finest order,

reversing back, leather bellows, etc., rapid rectilinear lens; slide, stops, carrier and folding stand, approval, 75s. lowest.—Cooper, 9, Sussex Terrace, Markfield Road, Page Green, N.

Underwood's half-plate camera, five slides, removable stereo-division, Taylor's lens, shutter, Ashford's tripod; cost 176s. 6d.; sell 130s.; Optimus 7 by 5 Buryscope, £4.—H. Short, Perryin Road, Acton, Middlesex.

High-class quarter camera, R. R. and W. A. R. lenses, tripod, shutter, case; particulars.—W. Charles, Duns, N.B.

For immediate disposal, Marion's Britannia camera, whole-plate, square, very best construction, and two double mahogany slides, £8; Optimus Buryscope lens, 7 by 5 (covers whole-plate); cost 94s. 6d. for 70s.; superior polished ash tripod, sliding, in brown waterproof case, 15s.; bargains. The lot complete, £10; cost £18 10s.—Apply, Julian, 29, Central Buildings, Kendal.

Sundries.—For sale, background, good as new, six cheap printing frames, several large porcelain dishes, quarter wet-plate bath, small scales and weight, cutting shapes, thermometer, etc., to be sold half-price; clearing out.—30, West Ham Lane, Stratford, E.

WANTED.

Cameras.—Quarter Instantograph, complete, or without dark-slides.—Gardner, Board School, Watford.

Facile camera on hire for Easter week. Utmost care.—John Williamson, Stoke Road, Guildford.

Camera, etc.—Half-plate 1889 Instantograph camera, tripped, slides (no lens); also leather case and shutter for Ross' 1½ hood; perfect condition; approval.—Tennant, Ingramgate, Thirsk.

Camera, Gauge, etc.—Quarter-plate 1889 Instantograph or other good camera, with double backs, without lens or tripod; also gauge for compressed gases.—Summers, 148, Stanstead Road, Forest Hill.

Dark-Slides.—Dark-slides, single or double, 15 by 12 or larger.—Photo, Cotes Hall, Eccleshall, Staff.

Detective Camera.—Rouch's new detective camera (Eureka), perfect; send particulars.—Thompson, 6, May Street, Belfast, Ireland.

Lantern.—Lantern, complete, and good half-plate lens. Will give Hillman's tricycle, worth £8.—Kennett, Sandgate, Kent.

Lenses.—Beck's half-plate portrait lens, No. 3 B, with rack movements. State lowest terms. Deposit

and approval.—Apply W. G. Gibson, photographer, 20, North Marine Road, Scarborough.

Optimus rapid rectilinear lens, 9 by 7; cheap for cash.—Stafford, 49, Birken Avenue, Nottingham.

Whole-plate or larger first-class R.R. lens for cash.—H. Crossley Rodley, Leeds.

Half-plate wide-angle lens, by good maker.—P. H. S. Nicklin, 188, Regent Road, Liverpool.

Lancaster's half-plate combination Rectigraph; state lowest figure.—Cornish, 38, Rue Pont Firmin, Quimper, France.

Printing Frame, etc.—Dishes, lamp, printing frames, etc.; cash.—T. 39, Isledon Road, N.

Roll-Holder.—Wanted quarter-plate Eastman's roll-holder, cheap for cash.—Forrester, 95, Portland Road, Nottingham.

Set.—Half or whole plate camera, with good R.R. lens, shutter, and appliances, complete. For good one, can offer splendid powerful microscope on swing stand, coarse and fine rack adjustment, stage, two objectives (by Swift), cost £3 and £5 respectively, spot lens, live box, 68 mounted objects, several cost 3s. to 5s. each, Cooke's Book, in cabinet, complete.—5, Weston Villas, Chippenham.

Shutter.—4 in. Kershaw shutter, any condition.—Kilburn, West House, Bishop Auckland.

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NOTICES TO SUBSCRIBERS.

Subscriptions must be prepaid.

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POSTAL UNION	6s. 6d.	13s. 6d.
INDIA, CHINA, ETC.	7s. 9d.	15s. 3d.

NOTICES AS TO ADDRESS.

PUBLISHING DEPARTMENT.—All letters containing Subscriptions, Orders, Remittances, SALE AND EXCHANGE Advertisements, or other business matters for the *Amateur Photographer* are to be addressed to the Publishers, HAZELL, WATSON, AND VINEY, LD., 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

NOTE.—SALE AND EXCHANGE Advertisements, at the charge of Three Words for One Penny, can be received as late as WEDNESDAY MORNING.

ADVERTISEMENT DEPARTMENT.—All communications respecting TRADE Advertisements in the *Amateur Photographer* are to be addressed to FERRY AND CRAWFORD, 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

NOTE.—Trade Advertisements are received up to Tuesday morning.

EDITORIAL DEPARTMENT.—All Literary Contributions, Queries and Answers, Photographs for Competition or Criticism, Books or Apparatus for Notice or Review are to be addressed to the Editor, *Amateur Photographer*, 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

NOTE.—To ensure insertion all Communications should reach the Editor on Tuesday.

CORRESPONDENCE SECTION.—Anyone wishing to communicate with Contributors can do so by forwarding such Communication in stamped envelope under cover to the Editor, *Amateur Photographer*, 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

THE "AMATEUR PHOTOGRAPHER" FIRST LADIES' PHOTOGRAPHIC COMPETITION.

PRIZES.

First Prize	Gold Medal.
Second	Silver Medal.
Third	Bronze Medal.

(These Medals, of the smaller series, will be appropriately mounted as Brooches).

SUBJECTS.

Landscape or Scascape.—Landscape with Figure—Genre or Figure Study.

CONDITIONS.

- Not less than six or more than twelve prints are to be entered for competition.
- All prints must be mounted, and the title (only) must be legibly written on the front of the mount.
- The work must be entirely the work of a lady, who must be a bona fide amateur photographer, and must have done all the work, except mounting, herself.
- The negative of the prize photographs must be at the service of the proprietors of the *AMATEUR PHOTOGRAPHER*.
- Photographs can be printed by any process, but must not be printed on opal, or mounted in optical contact on glass.
- All photographs must be sent in on or before the 31st of May.
- No prints will be eligible that have been entered for any previous competition.
- Entry forms will be forwarded on receipt of stamped addressed envelope.

NOTE.—The adjudication will be made by lady artists and lady photographers. It is hoped that it will be possible to make arrangements to exhibit the photo-

graphs at a *Conversazione* to be held in the offices, 1, Creed Lane, E.C., during the month of June.

Further particulars on application to the Editor, "*Amateur Photographer*," 1, Creed Lane, Ludgate Hill, London, E.C.

"AMATEUR PHOTOGRAPHER"

MONTHLY COMPETITIVE PAPERS, 1890.

The following Prizes are offered for competition every month:—

Three Prizes of £1 1 0 each.

Three Prizes of 0 10 6 each.

And Three Certificates.

The Papers must not exceed 1,000 words; and those which are awarded Prizes will be published in the *AMATEUR PHOTOGRAPHER*; others will be selected, and will be arranged for publication in the

"AMATEUR PHOTOGRAPHER'S ANNUAL."

Contributions are to be upon the subjects as list given below; and in order to make the matter more interesting, it is requested that each competitor shall give his *personal experiences*. It is intended that each subject shall be written up by a specialist for the ANNUAL, and the latest information given. All MSS. must be received not later than the

28TH OF EACH MONTH.

Subjects.

28th March	Optics.
28th April	Action of Light.
28th May	Exposure.
28th June	Plates and Films: their Development and After Treatment.
28th July	Printing, Toning, Mounting, and Finishing.
28th August	Artistic Effect and Composition.
28th September	Outdoor Instantaneous and General Photography

All MSS. to be addressed to the Editor, "*Amateur Photographer*," 1, Creed Lane, Ludgate Hill, London, E.C.

PHOTOGRAPHS reproduced for BOOK and other Illustrations by the best Methods available.

Information and advice given respecting all kinds of PROCESS BLOCKS from ORIGINAL DRAWINGS, as well as Photographs.

Amateurs' Etchings carefully proved and Printed at reasonable prices.

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TURNBULL'S

Patent "Cyclists'" Detective Camera.

The smallest, lightest, and plainest outside of any Hand Camera in the Market. No projections outside. A Hand Camera and Ordinary Camera in one.

PRICES— $\frac{1}{4}$ -Plate, with Six Double Slides, £5 15s.; 5 by 4, £6 5s.; $\frac{1}{4}$ -Plate, with Eastman Roller Slide, £7 0s.

Turnbull's Patent Film Slides.

Are less than half the thickness and weight of ordinary Double Backs. Can be fitted to any Camera.

PRICES— $\frac{1}{4}$ -Plate, 5/6; $\frac{1}{2}$, 8/-; $\frac{3}{4}$, 12/-; 10 by 8, 15/-; 12 by 10, 18/6 each.

Turnbull's Patent Film Carriers.

FOR CARRYING FILMS IN ORDINARY DOUBLE SLIDES.

PRICES— $\frac{1}{4}$ -Plate, 6d.; 5 by 4, 8d.; $\frac{1}{2}$, 10d.; $\frac{3}{4}$ by 5, 1/-; Whole-Plate, 1/3; 10 by 8, 1/6; 12 by 10, 1/9.

Turnbull's Walking-Stick Stand.

FOR HAND OR OTHER SMALL CAMERAS. Indistinguishable from an ordinary Cane; an entirely novel article; price 2/-.

Send for particulars.

J. M. TURNBULL, 6, ROSE ST., EDINBURGH.

THE AMATEUR PHOTOGRAPHER

Edited By CHARLES W. HASTINGS

1, Greed Lane, Budgegate Hill, London, E.C.

TELEPHONE No. 1645. Telegraphic Address: "VINEY, LONDON."

VOL XI No 286.

FRIDAY, MARCH 28, 1890.

[PRICE TWOPENCE.]

OUR VIEWS.

"To hold as 'twere the mirror up to nature."—Shakespeare.

EASTER HOLIDAYS.—All Communications should reach us on Monday, or at latest on Tuesday Morning. The Paper will be on Sale on Wednesday, instead of Thursday.

THE fourth Camera Club Conference was well attended, and the papers listened to attentively. The discussions showed that more interest was taken in the subjects treated upon than in former years. In another column we give an account of the proceedings, and may at a later date again refer to the papers. The dinner of members and friends on Friday evening was a brilliant affair, and a most distinguished company were present, including many of the leading scientists of the day and delegates from foreign and provincial societies. The *Club Journal*, published on the 27th inst., contains, we believe, the whole of the text of the papers read and discussions thereon. If our summary is incomplete, it is due to the difficulty of securing copies of the papers from which to write a *précis*, rather than from any wish on our part to curtail the report.

One matter of great importance came before the Conference—the "Proposed Discussion upon Regulations for Photographic Exhibitions." We very naturally imagined that the subject would be discussed upon the points laid down in the circular, instead of which the conclusions arrived at by a Committee, based upon certain written opinions that had been received, were put forward, consequently much of the ground was cut from under the feet of those who wished to discuss the matter. In another column we give the suggestions of the Committee, which are, if possible, less workable than those offered in 1888, and it is not difficult to trace that the framing of them is really based upon Dr. Emerson's article, entitled "An Ideal Photographic Exhibition," contributed to this journal in October, 1885.

No Exhibition has been promoted upon the lines he laid down, although during the four and a half years that have

elapsed since then, many scores of exhibitions have been held, good, bad, and indifferent. We respectfully submit that, if the suggestions now put forward by the Camera Club be such as would in their opinion ensure a successful and popular exhibition, they try the experiment. The Club has been established nearly five years, and have never yet ventured to hold an exhibition, but are ready to arrogate to themselves the right to make rules for others. We shall not in this issue discuss the general question, but will wait till our readers have had the opportunity of learning for themselves how narrow and warped are the views put forward as being those of the Camera Club. We will only deal with three points: First, the question of medals. In 1888 efforts were made to carry the "no medals suggestion," but without avail, as the last two years' work of exhibitions conclusively prove. Second, the working of the Champion Class. It is desired to abolish this very salutary class, and, we suppose, to allow "pot-hunters" to send their one picture round the country and sweep away all the medals in the manner that obtained prior to the general adoption of the clause, or condition, which precludes the admission to any competition of a picture that has once gained a medal. In our opinion, if the Champion class is abolished, the rule of one medal only should be insisted upon. Third, prizes placed at the disposal of exhibition authorities for the purposes of advertising. We know that the two or three gentlemen who are so rampant about this matter are kind enough to include the AMATEUR PHOTOGRAPHER medals, but we may add that, so long as exhibition authorities hold them in the high esteem that they do, and amateur photographers consider the winning of them so high an honour, so long will they be, under certain conditions, at the disposal of the Committees of societies and others promoting photographic exhibitions.

It may be interesting perhaps to mention that the first recipient of a prize offered by the AMATEUR PHOTOGRAPHER was Dr. P. H. Emerson, and that at photographic exhibitions held since April, 1885, some seventy or eighty of our

For Contents, Prize Competitions, Notices, etc., see page 231.

medals have been awarded, also that connection with the AMATEUR PHOTOGRAPHER competitions upwards of one hundred during the same period. From the list of prize winners we have selected the following well-known workers to whom we have had the honour of awarding our medals, as showing that at least some of them have thought fit to consider the medals worth competing for.

ADCOCK, W. (1 Silver)	“Home Portraiture.”
AUSTIN, J. E. (4 Silver and 1 Gold)	Keighley Ex., 1889. “Holiday Work,” 1889. West Hartlepool, 1889. Royton, 1889. “Lantern Slides,” 1890.
BANKART, G. (2 Bronze)	“Prize Tour,” 1886. “Prize Tour,” 1889.
CEMBRANO, F. P. (2 Silver)	Derby Ex., 1889. York Ex., 1889.
DAVISON, G. (4 Silver and 1 Bronze)	Stereoscopic Co., 1887. Calcutta Ex., 1888. Crystal Palace, 1888. Keighley Ex., 1889. “Prize Tour,” 1889.
DRESSER, A. R. (1 Gold, 2 Silver, and 1 Bronze).	Champion Ex., 1889. “Home Portraiture,” 1889. “Enlargements,” 1890. “Lantern Slides,” 1890.
EMERSON, Dr. P. H. (3 Silver and 1 Bronze).	“Animals at Home,” 1885. “Prize Tour,” 1885. “Home Portraiture,” 1886. “Prize Tour,” 1886.
GALE, J. (3 Silver)	Nottingham Ex., 1888. Liverpool Ex., 1888. Richmond Ex., 1889. Stereoscopic Co., 1885.
HARE, Rev. H. B. (1 Silver)	“Holiday Work,” 1887.
KEIGHLEY, Alex. (1 Gold, 1 Silver, and 1 Bronze).	“Home Portraiture,” 1889. Keighley Ex., 1890.
LANGE, Paul (1 Silver and 1 Bronze)	Newcastle Ex., 1887. Theale Ex., 1887.
STIEGLITZ, A. (2 Silver and 1 Bronze)	“Holiday Work,” 1887. “Prize Tour,” 1889. “Home Portraiture,” 1889.
TOLLEY, Harry (2 Silver)	Oldham Ex., 1886. Dundee Ex., 1888.
WILKINSON, B. G. (1 Gold, 1 Silver, and 2 Bronze).	“Prize Tour,” 1889. Champion Ex., 1889. “Lantern Slides,” 1889. York Ex., 1889.

We know reforms are needed in exhibitions, because photography has grown so rapidly; and with much diffidence, we submitted the following scheme to the Conference:—

A permanent photographic exhibition Committee to be formed in London. The members of the Committee to be drawn from—(1) The Council of the Photographic Society of Great Britain; (2) the Committee of the Camera Club; (3) the Presidents of provincial photographic societies; and (4) the Editors of the Photographic journals.

An annual exhibition to be held in London.

Exhibitions in certain provincial towns to be determined upon, to be held once in every three years.

The United Kingdom to be districted for photographic purposes. Say thirty-six centres to be fixed upon, an exhibition to be held in one of these centres once in every month. No two exhibitions to be held at the same time.

All exhibitions to be under the rules and regulations laid down by the permanent Committee; local Sub-Committees drawn from the societies attached to the district centre to work in conjunction with the permanent Committee through an organising paid staff.

Permanent paid judges to be attached to the permanent Committee, who would form a really competent examining board, not necessarily resident in London.

All medals and diplomas to be given by the permanent

Committee. Progressive medals to be given, varying in value, or preferably in design. The series of such medals to be, say, six, and only these six to be awarded to any exhibitor.

No picture to take a second prize at any exhibition.

All prize winners to supply the permanent Committee with a print, which is to be the property of the Committee, and framed at the expense of the Committee. Such pictures to be sent the round of the thirty-six centres, and afterwards returned in order to be placed in a gallery which should be provided for, and be under the control of the Science and Art Department, South Kensington.

In submitting this scheme, which was listened to with much attention, we did not expect any very strong expression of approval, and were prepared to hear some opinion as to the difficulty of securing funds, an obstacle which is met with in every undertaking, great or small, but if only a few of our great manufacturers will come forward in the same liberal manner as the Britannia Works Company have done, there should be no difficulty. An average donation of only 5s. per head from our own subscribers would form a fund quite large enough to work out the whole scheme.

A Committee formed as we have suggested would be a fit and proper body to draft rules and regulations for the governance of photographic exhibitions, and would bring about a consolidation of interests which at the present time is greatly needed. For ourselves, we will make no promise as to what we may or may not do, but our readers and all interested in photography may rest assured that we shall not be behindhand in giving financial and moral support to any scheme that shall have for its aim the union of interests and the advancement of the art and science of photography.

* * * *

ONE of the suggestions put forward at the Camera Club Conference, we think by Mr. A. Maskell, was the holding a photographic exhibition on the lines of the Academy or *Salon*. Mr. John Howson writes a letter upon the subject, offering to place £100 per annum for three years at the disposal of any representative committee that may be chosen to carry out this object. The idea of this photographic exhibition on the lines of the Academy is not new, and has been the subject of much “mere talk,” in which, we fear, it is likely to end. Still, should anything come of it, we shall be quite prepared, under certain conditions, to give it very hearty and liberal financial support.

* * * *

As photographic exhibitions are likely to be held on much the same lines in the future as they have been in the past, would it not be advisable for the Camera Club to give a list of those gentlemen who, in their opinion, are fit and proper persons to award prizes at such exhibitions?

* * * *

WE received a letter this week from a professional photographer of some note, in which he says, in speaking of the Camera Club and their suggestions, that he does not think they will carry out *all* of them; and of “one picture, one medal,” he says, “We won’t stand that. We (the exhibitors) have stood almost anything up to now, but now we are going to ‘rear.’ [At first we read this as, *we are going to the rear*, but on looking over the letter a second time, found out our mistake.] It is to be a jolly row.” Has this exhibitor considered that the giver of the prizes frames

the conditions under which they are given, and that if the exhibitor does not approve of the giver's conditions, he need not compete? Unfortunately, the whole question of medals is brought up by the servant, who really has no *locus standi*. The medal-giver is the master, and has a right to dictate conditions. In our own competitions we now allow no photographs to be entered *which have been exhibited at any competition or exhibition*, and we can secure from, say, 50 competitors, 500 pictures that fulfil our conditions; but the restriction we suggest in general exhibitions, is that when once the picture is medalled it *never* is awarded another; but if a man has only one picture, he can exhibit it at any number of exhibitions until it does obtain distinction for him.

* * * *

WE are pleased to notice that the Lantern Society has been started. The executive have been good enough to forward us a copy of the rules, from which we notice that the subscription for town members is one guinea, entrance fee one guinea, and for country members (residing outside a radius of twenty-five miles from Charing Cross) half a guinea subscription and half a guinea entrance fee. The entrance fee is not in force until after September 30th, 1890. There is really hardly any limit to the work that a properly organised lantern society can do for the furtherance of photography, and we expect great things of the pioneer society. Anyone requiring further particulars, or any of our readers who may be desirous of becoming members, should communicate with Lieut. C. E. Gladstone, R.N., 6, Bolton Street, Piccadilly, W.

* * * *

LAST week the members of the Liverpool Amateur Photographic Association held their first ladies' evening, which was a very pronounced success. An excellent concert was arranged under the guidance of two musical members, and Mr. Paul Lange delivered his very admirable lecture upon Norway, which was illustrated by 130 lantern slides from his own negatives. A very large audience was in attendance, and the first ladies' evening was a marked success. Yesterday (Thursday) the members held their general monthly meeting, when the arrangements for the 1891 exhibition were brought up for discussion. We shall hope to be able to lay the conclusions arrived at before our readers next week.

* * * *

THE Committee of the Newcastle-on-Tyne Photographic Association have decided to extend the time for "sending in application forms from April 1st to the 7th, but all pictures must be in the hands of the Secretaries by the 10th prox.

* * * *

WE are pleased to make known the formation of a photographic society, confined to amateurs, in connection with St. Bartholomew's Hospital. The chief object in view in starting this society is the "application of photography in the study of medical science." No less than thirty members have been enrolled.

* * * *

WILL all those who kindly allowed us the use of their "Dark-rooms" last year advise us of any alterations? We are just about to revise and augment our list. We require the use of a "Dark-room" in EVERY SEASIDE OR TOURIST RESORT IN THE UNITED KINGDOM. Professional photographers and dealers in photographic apparatus are

asked to allow us to include their "Dark-rooms" in our list, and to state whether a charge is made for changing plates, developing, etc., and what plates, etc., are stocked. We shall put ourselves in communication with them in a few weeks time. In the meantime suggestions will be gladly received, and we shall be glad of help to bring our "Dark-room" list up to 1,000 towns. Everyone can help, both amateur, professional, and dealer. To the two latter it means business, to the former intercourse with "contemplative men" in pursuit of "modern recreation." We shall take every care as to introduction, and no one will have the right to expect to be allowed to use of the "Dark-rooms" in towns as per our list without our personal introduction.

* * * *

PERSPECTIVE AND LENSES.

A SHORT time back, it was our good fortune to be present at a meeting of the "Artworkers' Guild," when the subject chosen for discussion was the "Use of Photography to Artists." As was perhaps only to be expected, photography did not come in for any very high share of praise, and the general consensus of opinion undoubtedly was that photographers generally were bad artists.

But in the remarks made by many of the members, they certainly laid themselves open to the *tu quoque* retort, that artists were very bad photographers. Indeed, we must confess that, considering the very great extent in which photography is now practised by artists, we were at first somewhat surprised at the general ignorance of the subject that was exhibited by most of those present.

This is partly no doubt ascribable to the mysterious and almost underhand manner in which painters generally practise photography; they appear to wish to conceal from the world generally that they are intelligent enough to utilise the powers that science has given them, and speak always of photography in an apologetic manner, like an upper schoolboy admits the use of a crib. This want of moral courage prevents them joining or attending the meetings of the numerous local societies, whose open discussions do so much to improve the general knowledge of the art, and makes them dependent for their technical knowledge on the mercenary advice of small and obscure dealers, whilst their acquaintance with the Art side is gathered only from specimens procured from peddling bagmen, in a manner suggestive that the prints in question hailed rather from Holywell Street than a public exhibition.

Looking on it in this light, it is less surprising that artists should not recognise the powers offered to them, and generally condemn a process of which they have but a shadowy knowledge.

Now, although adverse criticism is sprinkled pretty generally over the whole practice of photography, if there is one part which comes in for especial vituperation it is that most innocent article the lens. It is a good old saying that one abuses most what one does not understand, and artists abundantly prove the truth of this saw, and it would be difficult to show more ignorance of optics than they do in their remarks on the capabilities of a lens. Photographers also, we must admit, are not entirely free from these misconceptions, and even Mr. Emerson is hardly as clear on the point as he might be.

To take one typical specimen from the shower of abuse launched out against any photographic lens, we will examine that perhaps most common one, namely, the accusa-

tion that the lens exaggerates perspective, or diminishes the sizes of objects in the distance. We do not think any painter ever brought forth a homily on photography without sooner or later blundering into this misstatement, than which nothing can be more erroneous. It cannot be too clearly stated that in no way *can* any photographic lens distort or even alter the perspective of a view.

What there lies in nature before it, that, and that only, it represents with absolute fidelity on the ground glass. And when pictures showing distorted perspective are met with, it is not the lens that is to be blamed, but the operator, who, by getting too near to his principal object, naturally reproduces this in too large a scale compared with the distance, or else, from including too much in his picture, introduces objects that are too near to his camera, and consequently makes them unduly prominent.

We, of course, assume in this reasoning that we desire to represent nature as she is, and our motto is not *ars est celare naturam*. We are only too well aware of the tendency of the older school of painters to exaggerate the size of distant objects, and our galleries are full of most gross and glaring examples of the fault. This has not been without influence on the public, who have been thus gradually educated to like and expect these incongruities.

We think that when in the future the influence of photography on art is calmly discussed, it will be generally admitted that nothing was more marked than its influence on the rendering of perspective. And the public of the future will not recognise as an artist a man who emulates the Titans and piles Pelion and Ossa when he wants to delineate Primrose Hill.

And what is perspective, of whose laws painters now-a-days appear so very ignorant? It may be defined shortly as the art of reproducing solid objects correctly on a plane surface. And it may be practised by simply holding up a plate of glass between the view and the spectator, and then, keeping the eye and glass both fixed, carefully tracing the outlines of the view as they appear on the glass. We shall then get a true perspective rendering of the view, and it may be at once experimentally seen, as well as mathematically proved, that no alteration in the *relative* sizes of objects can be effected by any alteration in the position of the glass, providing the eye does not change. Their *actual* sizes will alter; that is to say, that the near gate will be represented larger or smaller, but so also will be the distant hills, and if the gate appear twice the height of the mountain in one position of the glass, it will appear precisely twice its height also in every other imaginable position. In fact, the only difference obtainable by moving the position of the glass will be to produce a smaller or a larger picture, as it is brought nearer to or removed farther from the eye.

And when we come to replace the glass plate by a dry plate, and our own eye by a photographic lens, we shall get exactly the same results, and find that plates taken with lenses of different focal lengths produce images, where the sizes of the objects in them are always strictly proportional.

Furthermore, it follows from the first laws of optics, that when dealing with parallel rays, that is, those emanating from fairly distant objects, the actual sizes of the images formed by a lens of a certain focal length will be exactly equal and similar to the image out-

lined on a plate of glass held at the same distance from the eye. That is, a lens of short focus gives a small picture, and one of long focus a large picture.

In other words, *n'en déplaie à messieurs les peintres*, the lens is no marvellous necromancing instrument, and is as incapable of falsely rendering what is spread out before it as these gentlemen should be.

And if we do meet with a photograph or a picture where an exaggerated perspective is to be found, we should no longer make a scapegoat of the innocent and servile lens, but blame rather the photographer or painter who had clumsily chosen an injudicious point of view, or included too wide an angle in his picture.

Letters to the Editor.

GAS CYLINDERS.

SIR,—Referring to "W. B. M.'s" letter in your issue of the 14th inst., and to your note at foot of same, inviting this Company to give its experience of gases compressed in cylinders, I have pleasure in giving you the following information, viz.:—Within the last three years we have compressed, approximately, three million cubic feet of gas, which (taking 15 ft. as the average capacity of cylinders) represents a total number of cylinders dealt with of two hundred thousand (of course, in this computation, if the same cylinder is filled twelve times it counts as twelve cylinders). You will be glad to know that, although such a large number of cylinders has passed through our hands, no accident has ever happened with a single one of them, either at our works or elsewhere.

A slight mishap once took place in consequence of a customer having amused himself by painting his oxygen cylinder red. When it arrived at our works it was taken to be a hydrogen cylinder, and was filled with hydrogen. The result was that when the customer received it back and began to use it, in the belief that it contained oxygen, the windows of the room in which he was working were blown out. The cylinder did not burst, and no one was hurt. The owner of the cylinder stated that he was ignorant of the fact that red was the distinctive colour of hydrogen cylinders; at the present time no one who uses compressed gases is ignorant of this fact, and a similar mishap is not likely to occur again.

You will, I think, admit that our experience with compressed gases is reassuring.

It will be noticed that, in spite of the very severe tests which the Scotch and Irish Oxygen Company applied to their cylinders, as noted in the extract from the *Glasgow Herald*, published in your last issue, they did not succeed in bursting a single one of them.—I am, Sir, yours faithfully, T. N. HESTER

March 19th, 1890. (Secretary to Brin's Oxygen Co., Ltd.)

SIR,—I think the explanation of the different action of water and gas on cylinders is explained as follows: At ordinary temperatures water is very slightly compressible, and has, therefore, very little elasticity. Supposing a cylinder to burst under hydraulic pressure, a rent occurs, a few drops of water escape, the expansive force of the water is spent. On the other hand, supposing gas, which is permanently elastic, or water at high temperature, *i.e.*, steam, is the cause of the rent, the elastic force of the gas or steam goes on acting indefinitely until all its force is expended, rending the cylinder to pieces and driving the fragments in every direction.—Yours, etc., G. H.

SIR,—In case no one with wider experience than mine writes to you about gas cylinders, you may consider this worth inserting. I have used cylinders twenty or thirty times this winter with Beard's patent regulators. Once these regulators went out of order, and gave me a very short supply of gas. They have worked perfectly on every other occasion. No doubt they are costly, but their use saves so much trouble in lugging about pressure boards and bags that it is quite worth while to invest in a

pair. My impression is that, barring the risk of gases getting mixed, which should be rendered impossible, cylinders are quite safe, but I shall await with much interest further contributions to our knowledge.—Yours truly,

R. C. MACLEOD.

March 14th, 1890.

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THE CHALLENGE CUP.

SIR,—Enclosed is copy of letter which I have this day forwarded to Messrs. Peasgood and Wollaston, *re* the award in the Challenge Cup Competition at the Crystal Palace Photographic Exhibition. I shall feel obliged if you will kindly insert it in your next issue.—I am, yours truly,

EDGAR G. LEE

Newcastle-on-Tyne and Northern Counties (Hon. Sec.)

Photographic Association,

Newcastle-on-Tyne, March 21st, 1890.

Copy of Letter sent to Messrs. Peasgood and Wollaston,
Photographic Exhibition, Crystal Palace.

“Dear Sirs,—Confirming my telegram of 19th inst., I am instructed by our exhibitors, whose names are appended at foot, to formally protest against the award in the Challenge Cup Competition, on the ground that, from authoritative information in our possession, a portion only of our exhibits was brought under the notice of the judges. A large portion of our pictures having been excluded from the Competition, as we *know* to be the case, we hereby demand an explanation, and unless that explanation is satisfactory, we insist upon the entire Cup Competition being re-judged.

“A copy of this letter is being sent to each of the photographic papers.—I am, yours truly,

EDGAR G. LEE,

“Mosley Street Café, Newcastle-on-Tyne, (Hon. Sec.)

March 21st, 1890.

“EXHIBITORS’ NAMES.”

Auty and Ruddock.

W. Parry.

T. Galloway.

J. Pike.

J. P. Gibson.

H. R. Procter.

J. E. Goold.

G. H. Ridgway.

Edgar G. Lee.

Lyd. Sawyer.”

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CRYSTAL PALACE EXHIBITION.

SIR,—In your kind notice of my picture, “On the Grand Canal, Venice” (No. 1,189, Crystal Palace Exhibition), you say it is admirable work, due more to the paint-brush than the camera, and that it is not photography. Now, Sir, as neither the negative nor the carbon print have any brush work or retouching on them whatever, I think this is a very unjust criticism. The Manager of the Autotype Company will endorse my statement, and I shall be much obliged to you if you insert my protest in your next issue, as the mistake of your critic is likely to do me harm.—Yours very truly,

AUG. W. WILSON.

March 24th, 1890.

NOTE.—We have much pleasure in publishing this letter.—ED : AM : PHOT :

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SCHOLARSHIP.

SIR,—As an alternative to my proposal of last week, I desire to-day to make a suggestion, actuated thereto by a point mentioned in the discussion at the Camera Club Conference yesterday. I refer to the proposal to hold an annual exhibition of photographs on the lines of the Academy, or Salon, the only objection to such an exhibition being a want of funds. You, Sir, in a most ready manner, offered your aid in this matter, and I follow your lead, and the Britannia Works Co.’s gift of £100 per annum for three years is at the disposal of any representative Committee that may be chosen to carry out this object.

May I add that I heard at the Conference a considerable quantity of unmerited abuse thrown at traders in respect to medals, but not a word against the societies who received them. Now, in not one single instance, as far as my memory serves, did we voluntarily offer any medals, but the suggestion came from the societies themselves, and in many cases they would have fared badly without them.

Those high-minded gentlemen who so forcibly reprobated such practices will be glad to know they are at an end. Perhaps they will follow the humble efforts of “mere traders” in giving practical support to such suggestions as have been made, and then photography will be in a fair way to that desired elevation to a higher platform which “mere talk” has hitherto failed to effect.—Yours truly,

JOHN HOWSON,

Ilford, London, E., March 22nd, 1890.

CONSTRUCTION OF CONDENSERS.

SIR,—Mr. Groves asks two questions, in his letter to the AMATEUR PHOTOGRAPHER of the 7th instant. Perhaps the following may prove of use to him. In measuring distances from lenses the starting point is the optical centre: in a double convex lens of equal curvatures this point is in the centre of the lens, in a plano-convex on the centre of the convex surface, and in double combinations about where the diaphragm is placed.

Firstly. As to the position of the illuminant in enlarging. There are two positions generally used for this. One is where the object has to be illuminated by parallel rays; in this case, the lamp is placed at the principal focus of the lens. The other position, said to give the best results, is where the lamp and diaphragm of the projecting lens are conjugate foci, which is found as follows: Let F be the principal focus, p the distance of the illuminant to condenser, and q the distance between the diaphragm and the condenser, then:—

$$\frac{1}{p} + \frac{1}{q} = \frac{1}{F} \quad \dots \quad (1).$$

Secondly. What is the relation of the radius of the convex sides to the focal length? If Mr. Groves only wants to find the focal length, he can get it directly by experiment, by utilising the sun, which will give the solar or principal focus; or else by means of a candle or window, by No. 1 formula.

If, however, he wants it, in terms of the radii of curvature; in a double convex lens let r and q be the radii of curvature of each face, F the principal focus, and m the index of refraction of the material of which the lens is composed, then:

$$\frac{1}{F} = (m-1) \left(\frac{1}{r} + \frac{1}{q} \right) \dots (2).$$

If the lens has one side flat, then q becomes infinite, and the formula is:

$$\frac{1}{F} = \frac{m-1}{r} \quad \dots \quad (3).$$

The following are a few of the indices of refraction (m) referred to air as unity:

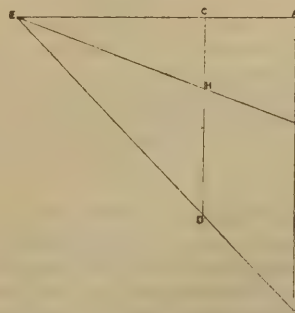
Water	1.336
Equal parts of glycerine and water	1.400
Glycerine	1.475
Chloride of cadmium in glycerine	1.500
Crown glass	1.525
Flint glass	1.575

These formulæ are approximations, and refer to lenses with a small angular aperture, and which are “thin;” that is, their thickness is small compared to the radii of curvature. They are, however, the usual formulæ, and lenses are modified more or less to suit them.

If, however, Mr. Groves is experimenting in making lenses, he will want more information, and the following construction of the path of a ray of light passing from one medium to another may prove of use. When a ray of light strikes a surface obliquely, it makes an angle called the angle of incidence (i) with the perpendicular to the surface, and on passing into it makes an angle of refraction (r) with the same line, then

$$\sin i = m \sin r.$$

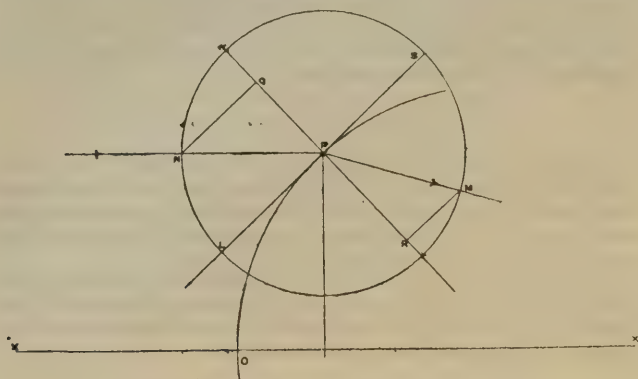
When the ray strikes perpendicularly, this angle is zero, and there is no refraction.



Draw two parallels AB and CD, take CD as unity and make AB = m CD. For instance, for crown glass make CD = 2 inches

and $AB = 3$ inches, join AC and BD , and produce them to meet in E , then CD is the scale for glass, and AB for air.

Let XOX' be the axis of the lens, and OP part of the surface. Let the ray of light touch the surface at P , through P draw LPS , touching the surface at P , and draw WPR perpendicular to LS at P ; with centre P and any radius, draw a circle NSM cutting NP in N , draw NQ parallel to LS , and meeting WR in Q . Lay off AF equal to NQ , and join FE , then CH is the corresponding sine in glass to NQ in air. Draw MR parallel to LS and equal to CH , meeting the circle in M , and the line QR in R , join PM , then PM is the direction of the ray of light in glass. The same construction must be gone through when the ray passes out into air, using the same proportionate scale, only measuring off first on



CD . If several rays are drawn in this way, their intersection will give the focus, which will probably give a curve known as a caustic. A certain number will intersect approximately on the line XOX' . This point is what is known as the principal focus.

Of course, if preferred, the positions of the rays may be calculated by trigonometry.

For the above construction all that is required is a divided scale (preferably decimally), a pair of compasses, and a set square. —I am, etc.,

J. G. P. VEREKER.

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ALPHA PLATES.

SIR,—I have been trying the Alpha lantern plates, and have noticed that nearly every one of them has a defect in the way of finger marks or spots. A friend of mine has tried several packets of these plates, and has noticed the same defects. Both his and my plates were bought at different places. It seems a pity that they should be like this, as they give beautiful warm tones. I should like to know if any of your other readers have found them so. If they have not, it seems curious that the damaged packets always fall to my friends' and my share.—Yours truly,

A. H. LIVINGSTONE.

86, Palace Gardens Terrace, Kensington.
March 15th, 1890.

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"PHOTOGRAPHIC ANSWERS."

SIR,—In the last issue of the *Photographic Art Journal*, in consequence of our not having received a copy of *Photographic Answers* for several weeks, we expressed our belief that it must have expired.

We have, however, received a communication from our contemporary which removes any such misapprehension.

Photographic Answers is not only still in existence, but in a vigorous condition, and promises well, so that we desire to apologise for any misapprehension which we may have created.—Yours faithfully,

EDITOR, *Photographic Art Journal*.

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AMATEUR PHOTOGRAPHIC SOCIETY, EDINBURGH.

SIR,—In this week's issue of the *AMATEUR PHOTOGRAPHER* I observe a letter signed John Pirie, advocating the formation of an amateur society for Edinburgh, on the grounds that "the present society is encumbered with professionals, who are no help to amateurs, but whose presence is rather a drawback to amateurs expressing their views." A letter with the same object

in view appeared in your journal about two years ago, and was disposed of by the then Secretary of the existing society, and another correspondent, when it was pointed out that the present society was by far for the most part composed of amateurs, and such were the leanings of the society to them that it is a rule that the President be not a professional, and this rule has been acted on all the time that I have been connected with the society, now over fifteen years.

There is also a club, of a limited number, composed of members of the society only, which meets once a month, and there professionals and amateurs mingle in the most harmonious manner, each vying who shall give the most help and encouragement, and each standing for the time being on the same platform, and the same thing applies to the manner in which business is carried on in the parent society.

The conclusion I come to, and the opinion I have long held, is that the strength and usefulness of such an association lies in the fact that the two elements are represented, and therefore no need for another society on a purely amateur basis.

For myself, and I am certain I speak the sentiments of all other amateurs, the professionals are no "drawback to amateurs expressing their views"—the reverse is the case.

I need not encroach further on your space, but I should like to ask how it comes to pass that Mr. Pirie thinks that another society is needed because the present one is encumbered, etc., etc, when he can have no personal experience on the matter, seeing that his name does not appear on the roll of members of the Edinburgh Photographic Society?—Yours, etc.,

Edinburgh, March 22nd, 1890.

JAS. CRIGHTON.

SIR,—As one who has taken a quiet interest in amateur photography in Edinburgh for some years, allow me to support Mr. Pirie's letter of last week. Amateur photographers here are very small fry when sitting at an association meeting with their big professional brethren, from whose chance approving smile they may at times get encouragement. The sooner it is recognised that amateurs cannot run in harness with professionals the better. Mixed meetings seem only to lead to the aggrandise-ment of the professional. Amateurs here must join hands, organise their own society, and seek to progress by self-help. We are capitally situated in Edinburgh, and amateurs are a strong and growing body, and it is idle to say that a strong society cannot be formed. Let the amateur be up and doing, and get matters arranged by next winter.

Just another sentence. Why should not amateurs arrange summer excursion parties, and perpetuate on plates our beautiful scenery? Novices need coaching in our delightful art; but they are a bit too bashful, and go out solitary and alone. If parties were arranged, one could assist another, and the experienced artist the tyro. A word of experience in the ear of a beginner is worth ten experiments, which are always costly and often disappointing.—Yours, etc.,

WALTER MCPHAIL.

Edinburgh, March 22nd, 1890.

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PHOTOGRAPHIC SOCIETY FOR THE POTTERIES.

SIR,—There being no photographic society now in the Potteries, we have been asked by a number of amateurs at the north end of the district to take the initiative in forming one. It is intended to hold a preliminary meeting in Burslem at an early date. Those amateurs who would be willing to join are requested to send in their names to Frank C. Powell, The Grove, Wolstanton, or J. F. Hewitt, A.P.S., 35, Market Place, Burslem. Notice will be given when and where the meeting will take place.—Yours, etc.,

F. C. POWELL.

March 22nd, 1890.

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HAND-CAMERAS IN THE PUBLIC PARKS.

SIR,—As to Mr. Steele's letter, the law is simply this, that photographers, both professionals and amateurs, are not allowed to photograph in any public park. If Mr. Steele photographs there with a detective camera, it will be just as much against the law as with a tripod. But by sending to Her Majesty's Board of Works, he will be able to obtain a license (provided he is an amateur), which is not available on Sunday.—I am, yours truly,

JOHN H. MONTAGU.

Chemistry for Photographers.

By C. H. BOTHAMLEY, F.I.C., F.C.S.

(The Yorkshire College, Victoria University).

(Continued from page 177.)

Now that we have become acquainted with the more important outward signs of chemical changes, and with some of the chief conditions by which the occurrence of such changes is determined, it is necessary to ascertain whether we can distinguish between different *kinds* of chemical changes, and whether we can frame any useful system of classification for them.

EXPERIMENT 24.—Place a small quantity of red mercuric oxide in a dry test tube, and heat it. *Observe* that it darkens in colour, finally becoming black, and that a grey deposit forms on the cold part of the tube. Light a splint of wood, and when it has burnt for some time blow out the flame, leaving a glowing spark on the end. Introduce the splint with the glowing spark into the tube in which the mercuric oxide is being heated, and the splint will again burst into flame; repeat this. Now allow the tube to cool. *Observe* that the solid which is left (if any) regains its red colour as it cools, and examine the grey deposit formed in the cold part of the tube. Rub it together by means of a splint of wood or a strip of card, and on looking down the tube you will see that the deposit has collected in small shining globules with all the appearance of mercury or quicksilver; the deposit is, in fact, metallic *mercury*. The colourless gas which is given off and rekindles the glowing splint is called *oxygen*.

In this experiment we have obtained from mercuric oxide, by the action of heat, two substances—mercury and oxygen—very different from one another and very different from the original oxide.

EXPERIMENT 25.—Dissolve a few crystals of potassium chlorate in distilled water, and to the solution add a few drops of a solution of silver nitrate. If the chlorate is quite pure there will be no change, but with the ordinary commercial chlorate a *slight* white precipitate will be produced.

Take a larger quantity of the crystals, and heat them in a dry test tube. *Observe* that the crystals melt, and after some time the liquid seems to boil. Now introduce into the tube a splint of wood with a glowing spark at the end, taking care that the wood does not drop into the melted chlorate; the splint will burst into flame as in experiment 24. Continue heating until the effervescence of the solid nearly ceases, allow it to cool, and dissolve part or all of it in distilled water. To this solution add a small quantity of silver nitrate solution; a *dense curdy* white precipitate will be formed.

By the action of heat we obtain from the potassium chlorate, the same gas—oxygen—which we obtained from the mercuric oxide, together with a white solid substance very different from the original chlorate, because its solution behaves very differently with a solution of silver nitrate.

EXPERIMENT 26.—This experiment requires a galvanic battery and a special piece of apparatus, but if the student has not the means of performing it he should endeavour to see it done by some one else.

The apparatus consists of a glass vessel of the shape shown in fig. 12 (a glass funnel with the stem cut off will do), the hole being closed by an indiarubber cork through which, at a short distance from one another, pass two platinum wires to the ends of which are attached two small plates of platinum foil. The glass vessel A is nearly filled with water to which a small quantity of sulphuric acid has been added, and two long narrow test-tubes of equal

diameter and length are filled with the same acidulated water, and then by placing the thumb on the open end they are each in turn inverted in the water contained in A, and remain filled with water. One of the tubes is brought over one of the platinum plates, and the other tube over the other. The outside end of one of the platinum wires is connected by a copper wire with one of the poles of the

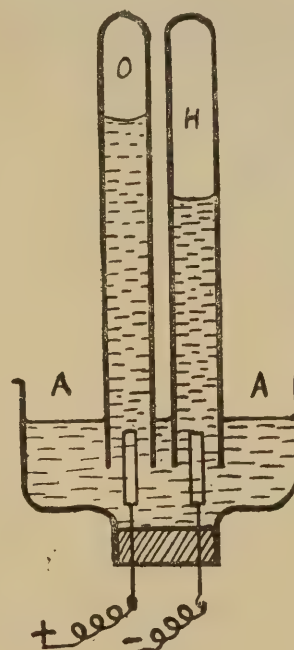


FIG. 12.

battery, and the outside end of the other wire is connected with the other pole. The electric current passes from one pole of the battery along the copper wire, platinum wire, and plate, through the water to the other plate, and along the other platinum wire and copper wire to the other pole of the battery. *Observe* that as soon as the battery is set in action by completing the connections, bubbles of gas begin to rise from the platinum plates, and gradually collect in the tubes placed above them. As the amount of gas increases, it will be seen that both gases are colourless, and that *the volume of gas in one tube is almost exactly double the volume in the other*. When one of the tubes is full, the other will be half full. Now disconnect the battery, place the thumb over the mouth of the full tube, lift it out of the water, and, still keeping it mouth downwards, bring it near a flame. Remove the thumb, and bring the end of the tube into the flame; *observe* that the gas in the tube takes fire and burns with an almost invisible flame. Remove the second tube in a similar manner; turn it mouth upwards, still keeping it closed, and then introduce a splint of wood with a spark on the end: the wood will burst into flame as in the previous experiments.

By the action of an electric current on water we obtain from it two colourless gases, oxygen, and a gas which will burn and which is called *hydrogen*.

Notice in the first place that the three preceding experiments show that substances which are very different may yet all contain the same substance, united, of course, with others. The red solid mercuric oxide, the white solid potassium chlorate, and the colourless liquid water all contain the same substance, oxygen. The other substance with which the oxygen is united, is, however, very different in each of the three cases.

In all three experiments the chemical change is of the same kind; from one substance we obtain two, different from one another, and different from the original substance. We have, in fact, three examples of *chemical decomposition*.

CHEMICAL DECOMPOSITION is the splitting up of one substance into two or more substances different from one another and different from the original substance.

In the experiments which have been made one substance split up into two, but in very many cases decomposition is more complicated, and one substance may split up into five or six others. The chief agents in the production of chemical decomposition are heat and electricity, as in experiments 24, 25, and 26, and light, about which we shall learn more subsequently.

All substances of definite composition which can undergo decomposition in the manner indicated, and yield at least two distinct substances, are termed *chemical compounds*.

All substances, however, are not compounds. If we take the oxygen or the mercury or the hydrogen obtained in our experiments, and endeavour by any means at present at our disposal to split them up and obtain from them something different from themselves, we shall fail. There are many other substances which behave in the same way, and have never been resolved into anything simpler. These bodies are not compounds; they constitute, so far as we can tell, the primary or fundamental form of matter, and they are termed *chemical elements*.

A **CHEMICAL ELEMENT** is a substance which has never been resolved into anything simpler, or out of which nothing has been obtained different from itself.

Observe that the definition does not say that an element *cannot* be decomposed, but simply that it *has not been* up to the present time with the means at our disposal. It has frequently happened in the history of chemistry that substances which for a long time have been regarded as elements, have, on the invention of more powerful methods of investigation, been shown to be really compounds. There is no reason to suppose that this may not happen again, and if it does the substance which has been split up will of course cease to be regarded as an element, but possibly the products into which it decomposes may constitute new elements.

(To be continued.)

Winter Work.—XXV.

By T. C. HEPWORTH, F.C.S.

PHOTOGRAPHY BY MAGNESIUM LIGHT.

(Continued from page 195.)

It must be admitted that flash-light portraits have too often a very unnatural appearance, and that the eyes in particular seem to suffer. One reason for this is that the flash is so unexpected in its brilliancy that the subject involuntarily closes his eyes at the moment of exposure, or at any rate as quickly as he can. The result is that, quick as that exposure seems, it has actually registered the image of the open eye as well as a superposed image of the closed eye. The effect is by no means pleasing, and gives a generally hazy appearance to the eye, which is apt to make the censorious ask whether before that picture was taken, the original had been dining "not wisely but too well." For this reason it is as well to direct the subject not to look at or near the source of light, nor directly towards the camera. It is always a good plan also, to make a preliminary flash without taking a photograph, so that the sitter or sitters will know what to expect, when the camera is ultimately used. Another

reason why the eye suffers in these pictures is due no doubt to the circumstance that the pupil is naturally much more dilated than it is in daylight, and that the controlling muscles of the iris have not time to act when the bright flash comes. We thus photograph the eye under unusual conditions, and need not wonder that it looks unnatural. While on the subject of the eye it may be as well to point out here that it is injudicious to subject it to the strain of these flash exposures more than is absolutely necessary. It is a wise precaution to wear a pair of smoke glasses, or those dark blue spectacles which are used by cautious electricians who have much to do with the brilliant arc-light.

There should be no difficulty in focussing for a flash-light picture if the room be lighted by gas. I am in favour of all the available gas lights being kept full on both before and during exposure, if only to prevent the sitters blinking their eyes when the flash comes, as they are likely to do when a sudden flood of light comes immediately after darkness. If there is not much light available, a candle can be held by the sitter in the same plane with his face, and its flame can be sharply focussed on the camera screen. When all is ready the slide can be drawn and the lens uncapped before the operator makes the flash, the slight preliminary exposure producing no effect upon the plate.

With regard to pose of sitter and general arrangements, let them be the same as those generally adopted for portraiture in an ordinary room, and let the magnesium lamp be regarded as a window from which the light is to come. On the other side of the figure some kind of reflecting surface must be provided, and nothing is better than a sheet, unless it be a screen made for the purpose. I have used such a screen with good effect, and it consists of a wooden frame stretched over with canvas, upon which is pasted white lining paper. The real purpose of the screen was for trying lantern pictures in a small room, and so it will be seen that it answers a double purpose.

What may be called a natural background may easily be arranged in a private room, and any number of accessories in the shape of flowers on fancy tables, Japanese screens, books and pictures are always available. Care must be taken that the strong shadow thrown by the magnesium light does not fall upon any portion of the background which will be included in the picture.

There is no particular object in taking portraits by flash-light that can be easily taken by daylight; it should be reserved for such subjects as cannot readily be obtained, in the absence of a proper studio, by more ordinary means. Children playing with pet animals, or in their night gear, or even in their bath form subjects of the kind which are attainable by flash-light. Pet animals too can be perhaps better taken by flash-light than by other means. Family groups engaged at their common amusements, gathered round the piano, playing chess, etc., will also form interesting subjects for this kind of work. The ingenious photographer will quickly think of suitable subjects, and will gladly avail himself of a means of prosecuting his favourite pursuit in the absence of daylight.

In photographing a group of persons, such as one may have the opportunity of doing at a fancy ball, or on the occasion of some private theatricals, a simple reflector is not enough, nor is one flash apparatus sufficient. The following plan will be found both convenient and effective. Employ apparatus of such a kind that a puff of air, after the kindling flame is lighted, will give the requisite flash. Let an apparatus of this kind be arranged on either side of the groups, both being at a height above the level of the sitters' heads, and let each be embraced by a sheet of tin bent into a quarter circle. Now connect each apparatus by means of an indiarubber tube, the two tubes meeting on a T piece of

quarter-inch bore which can be bought at any gasfitter's. Let the T piece lie on the floor with its still remaining open branch pointing towards the camera. Furnish this with another piece of tube long enough to reach to the back of the position occupied by the camera, and pull its further end over the nozzle of a common pair of bellows. All that now remains to be done is to light the kindling flames, see that each apparatus is charged with powder, and at the right moment give a puff with the bellows. By this means both charges will be inflamed at precisely the same moment, and the light given will be found to be quite sufficient to produce a properly exposed negative.

I have not much to say, regarding the development of a flash-light picture. I am certainly in favour of using as little pyro as possible, and not stinting the ammonia. Do not be afraid of the picture appearing quickly under such circumstances. Your endeavour must be to avoid hard chalk and soot contrasts, and these you will undoubtedly get if you use much pyro and are chary with your alkali. When you find that you have plenty of detail but that there is a want of density in your negative, then is the time to add more pyro, which will gradually give your picture the density which has been lacking. In cold weather be careful to use tepid water for making up your solutions, and you will quickly find a benefit in so doing.

(To be continued.)

Photographic Printing Processes. No. IX.

BY ANDREW PRINGLE.

GELATINE-CHLORIDE EMULSION PAPER. "ARISTOTYPE," OR OBERNETTER'S.

THE printing processes known as "Aristotype" and "Obernetter's" are practically the same, and for certain purposes and to certain tastes the processes are so valuable that my series of chapters on printing would not be complete without more than mere mention of the names. Those who have a fancy for high gloss on their finished prints will find every facility for its attainment in the use of this gelatine paper; extremely thin negatives may be made to yield very fair prints by it; the tones attainable are various, and some of them very pleasant. But I do not think that an Aristotype or Obernetter print unglazed will ever be considered a thing of beauty; the surface in the unglazed condition is "soapy-looking;" and the tones apt to be very crude. The prepared paper—ready sensitised—will keep good for a considerable time, many months, for instance; and, so far as I know, the toning is not perceptibly more difficult or different in operation after prolonged keeping of the paper. The process of printing is rather more rapid than with ordinary sensitised albumen paper, and the same general principles are to be observed, the same dodges are available, with the gelatine as with the albumen paper.

The emulsion with which the paper is coated consists of silver chloride and gelatine, with a certain proportion of an organic silver salt. The general tendency of the emulsion is to yield plucky or even hard prints; as a rule, it will be found impossible to get a harmonious print from a negative showing marked contrast unless the dodge given under "Albumen Printing," under the name of "sunning down," be used. This dodge consists simply of printing to nearly the full required depth, and then allowing the light to act on the print held in the hand outside the printing frame. If this be carried out properly, a "chalk-and-soot" print may be greatly improved. Very thin negatives are to be printed

in dull light, or behind tissue paper or ground glass, and the worker may be astonished at the quality of result he may obtain by this process from an apparently useless negative. Printing is to be carried to nearly the same point as with albumen paper, but not nearly so far as with plain salted paper. The prints keep well in the dark after printing.

Two toning solutions, not altogether dissimilar in result though differently used, are recommended, and I find one as good as the other; on the whole, I find Dr. Liesegang's formula works better with his own paper (Aristotype) than with Obernetter's. Here is Dr. Liesegang's formula:

Water	24 ozs.
Sodium hyposulphite	6 "
Ammonium sulpho-cyanide	1 oz.
Saturated solution of common alum	2 ozs.

Dissolve; then twenty-four hours before using put into the solution some scraps of the sensitised paper. (This should not be omitted.) Then filter, and add:

Water	6 ozs.
Gold chloride	15 grs.
Ammonium chloride	30 "

This solution, of course, is at once a toning and a fixing solution.

The solution I use with Obernetter's paper is:

Ammonium sulphocyanide	140 grs.
Sodium phosphate	140 "
Sodium tungstate	100 "
Water	24 ozs.

(The tungstate or phosphate, not both, may be omitted and replaced by about half the quantity of the other salt; thus the phosphate may be replaced by 70 grs. of tungstate, making in all 170 grs. of tungstate.)

When dissolved, put in scraps of paper as before, filter, then add:

Gold chloride	15 grs.
Water	4 ozs.

After this toning solution a weak fixing bath should be used, say, 1 part by weight of hypo to 10 parts of water.

With Liesegang's bath no washing is formulated previous to toning, but I advise a bath of fairly strong alum solution in water. With Obernetter's paper the alum bath is almost necessary in warm weather or with warm solutions. It is better to use the toning bath quite cold, for it is strong enough to tone rapidly without any heating. The prints should be five minutes in the alum bath. I do not think that the warm tones obtainable by this process will ever meet with much favour, as in my experience, at least, they always appear rusty; but a brisk toning leads to a very pleasing range of colours, all more or less violet or blue-black. In the toning bath the prints *must* be kept constantly in motion, otherwise uneven toning will certainly occur; the dish must be large and the solution ample in quantity. No judgment can be formed as to progress of toning with this process by reflected light; the prints must be looked through against a fairly bright light, and toning is not complete while any brown or rusty appearance remains; the colour goes back considerably in the fixing bath when we use a separate one. The quantity of gold used in this process is considerable, and the toning bath's action will quickly become slower as prints are toned. After toning, the prints may be placed in clean cold water till a batch is ready for fixing, or if already fixed they are to be washed finally. The toning solutions formulated keep fairly well, but of course gold must be added as used up. It is better not to add the gold immediately before toning.

The washing of these prints requires great care, as hypo

clings with considerable tenacity to the gelatine. I recommend the rose-tap and squeegee, followed by a few hours in a washing machine. They may be dried and mounted with their own natural surface, but probably it will be better to squeegee the prints after washing to a ferrotype plate previously rubbed with talc, or to a sheet of glass prepared in the same way. A very high gloss indeed is given by squeegeeing to a talced and collodionised glass plate, the collodion solvents being previously washed out.

This process is well worthy of the attention of those who practice photo-micrography or any other purely scientific branch of photography. I may safely say that whatever shadow detail is in a negative will be brought out by gelatine-chloride printing, and considerably less detail is lost in toning and fixing operations by this process than by albumen paper printing. With this process, however, high-light detail is by no means so well rendered as shadow detail. As an instance of the utility of this process, I may cite the admiration lately evoked at the Camera Club by the exhibition of a set of prints illustrating skin diseases, produced by Dr. Radcliffe Crocker, and handed round on the occasion of Dr. Patterson's paper.

(To be continued.)

Photographic References.

BY MAJOR J. FORTUNÉ NOTT.

APPARATUS.

(Continued from page 104.)

Changing Boxes are light-tight contrivances, which can be substituted for "double-backs," and are made to contain any number of plates up to a dozen, which, by mechanical arrangements, can, in proper sequence, be placed in position for exposure. There are several forms of these changing boxes whereby a dozen plates can be carried and used without recourse being had to a dark-room, and that do away with the necessity, which otherwise exists if glass plates are employed, of carrying about six "double-backs," but despite their apparent advantages none of these contrivances have met with general approbation. A short experience in the manipulation of a changing box, especially if it be one adapted for any of the large-sized plates, is all that is required to reveal the fact that it is very liable to get out of order. Its weight, when filled, is also a drawback against its use, which cannot be overlooked. Again, any slight error made in cutting the plates to the exact measurement will often throw the working mechanisms out of gear, and cause a "sticking;" or a slight chipping of the corners will do the same, besides rendering a serious scratching of the sensitive surface very probable. Then, again, the plates are more exposed to dust than they are in "double-backs," and a greater liability to breakage also exists. Before an investment is therefore made in a changing box, although it may look a very simple affair, some experience with it in a practical manner should be stipulated for, or a reliable report from an uninterested source should have been received.

Film Holder.—This contrivance is a simple and useful device, which is employed for the same purpose as a "changing back," when celluloid or gelatine films in cut sheets are being used instead of glass plates. It may safely be asserted that the use of these films, cut to size, would become much more general if some means existed whereby

they could be automatically "changed" before and after exposure. In the "Ferrero film carrier" this changing is made by the insertion of a finger and thumb through holes in a light-tight bag permanently attached to the side of the holder. The lid being opened therein, the fingers can draw out the exposed film, and place it in another department which exists in the box, without any light being allowed to enter. When this has been done, a fresh film is brought into position, and so on. It is very easily worked, but, of course, is not automatic. It is, however, when filled very light, the difference in weight between it and a "changing box" being chiefly due, of course, to the lightness of the films as compared with a similar number of the same sized glass plates. For travellers, therefore, who prefer to use these cut films this "holder" supplies them with the means of carrying a dozen or more in such a manner that they can all be easily exposed without trouble.

Focussing Cloth.—This necessary adjunct to a photographer's kit is almost too well known to need any description. It is employed for the purpose of keeping the focussing screen protected from any extraneous light reaching it, while the "view" is being focussed. If it were not kept darkened, the image on the ground glass would either not be visible or not sufficiently clear to enable this to be done correctly. The material used for this cloth is very much a matter of taste, some photographers preferring black velvet to anything else, partly, it may be surmised, to the fact that it is somewhat handsomer in appearance than any of the other suitable materials. Whatever make is chosen, the substance must be impervious to light. It should also be fairly large, so that it can be made to well cover the camera; and in windy weather allow the operator to button or tie it to the camera in such a way that he has ample room under it. A thin rubber cloth is now made in large sizes suitable for the purpose, and is, when everything is taken into account, probably the best material to select. It is not easily moved by the wind, and in wet weather, being waterproof, it affords a protection to the camera and adjuncts, a feature which in our uncertain climate is a virtue not to be despised. It has, however, some drawbacks; in hot weather it is almost impossible to remain long under it without suffering for want of ventilation, and under some circumstances it promotes condensation of the breath upon the focussing screen, which becomes troublesome. If not kept in constant use, the rubber exhibits a tendency to become dry and hard, or even rotten. A focussing cloth made of this material should, therefore, receive some attention, in order to keep it in a serviceable condition.

It should by no means be forgotten to have loops attached, or button holes made in the cloth so that it can readily be fastened down in the event of work having to be done in windy weather. The neglect of this precaution may be the source of more annoyance than can readily be imagined without practical experience thereof. A useful precaution is to have eyelet holes inserted all round the cloth, especially if it is one of the stronger makes. This simple arrangement permits of its being easily made into a bag in which a travelling kit can be wrapped, or stretched between supports on occasions when shelter from the sun or rain may be desirable. In fact, a focussing cloth of the right dimensions and material can be made to serve so many useful purposes that it is advisable to give it more attention than such a simple affair would at first appear to call for.

The well-known appearance of a photographer hidden away under a focussing cloth, with only the legs of the tripod, and his own lower extremities visible, has always been, from the early days of photography, a sight which

NOTE.—These articles will now be continued in every other issue. Major Nott was unexpectedly called upon to proceed to Egypt, hence the non-publication of the articles.—Ed: AM: PHOT:

has for certain classes a strong element of the ridiculous. Substitutes for the focussing cloth have, therefore, been sought for, and in one or two arrangements for this purpose the difficulty has been overcome more or less successfully. A number of thin wooden or rubber slats fastened together after the well-known manner of a blind, are made to cover the screen, and by lifting them alternatively any part of the plate can be examined. An ingenious arrangement has also been devised whereby a spiral wire frame, tapering from a base the size of the plate to a sufficiently small apex to hold a small compound focusser can be made to cover the ground glass, and so enable the desired result to be attained without the operator assuming any undignified position. By no device, however, which has yet been brought before the public notice can the same assured certainty in focussing, or the means of correctly arranging the picture, be so satisfactorily accomplished as by the aid of the simple but despised focussing cloth.

(To be continued.)

Camera Club Conference.

THE fourth annual Conference was held in the theatre of the Society of Arts on the 20th and 21st inst., under the presidency of Captain Abney; and in the hall below there was an exhibition of apparatus, and at the Club an exhibition of pictures taken by the members.

The President, in opening the proceedings, dealt with the question of colour photography, and pointed out that photography in colours was of ancient date, but that no process had been discovered for retaining those colours, and his opinion appeared to be that the discovery of such process was, to say the least of it, very unlikely. In conclusion he said, "It may be asked what am I driving at, and my reply is, that I think that the photographic spectrum curves of sensitiveness are analogous to the spectrum curves of colour-perception in the eye, or, in other words, that a photographic plate has, in reality, one, two, or three colour perceptions, and that all sensitiveness to other colours is due to only partial response of this vibrating molecule to wave-lengths, which differ slightly from those with which it is in accord. A study of the simple mixture of the natural salts favours this view, and I believe that by using this as a working hypothesis, a better understanding of the apparent vagaries in the extent of sensitiveness will be attained."

Mr. A. M. Rossi then proceeded to read his paper on "The Art of Drawing and Photography," the object of which was to emphasise the opinion he had already expressed in an article that had appeared in the PHOTOGRAPHIC QUARTERLY, that photography was of great assistance to the artist, and was capable of saving a large amount of time, by providing the outline which the skill of the painter was to fill in. As an illustration, he took the case of two young men—one well to do, who, having a liking for art, although not an artist, and not knowing what else to do, decides to become one; the other, a boy born in poor circumstances, but a painter, within whom lie dormant the instincts of a designer and an artist. The former devotes six or eight weeks to shading the head of a Vitelliano, stippling it with the point of the crayon and bread putty. The apprentice, with a piece of chalk, smeared with forms of all kinds every available space of wall he could come across. The Academy student was busy trying to win a scholarship for best drawing from the antique, and the little apprentice, getting hold of a photograph, traced it on a smooth piece of board at his master's shop, and with his master's paints he coloured it. It was a portrait of his employer, who, having detected him, instead of discharging the refractory one, sends him at his own expense to Heatherly's to join the evening classes. There he learnt in six months enough drawing to enable him to copy with exactness anything from the flat. The apprentice, encouraged, goes on to success, while the other, leaving his pictures, throws brush and palette aside in disgust. Mr. Rossi concluded by expressing the opinion that the only teachable part of art, viz., drawing, was sinking with the rising of photography, and that the days were not far off when a youth, born with artistic instincts, with a few months of mechanical instruction could be his own teacher, and photography would be his academy.

Mr. Adcock thoroughly agreed with the opinion of Mr. Rossi, and believed that those who pursued photography for what at they could get out of it would find it a treasure.

Mr. Davison doubted if Mr. Rossi's position was taken up by many artists of the orthodox type. Mr. Rossi had referred to nine years as the period of the education of an artist; he thought that was not more than was necessary for the education of a photographic artist. He could not think that photography would help the artist, as the technique was different in both cases. The illustration of the two young men did not make for the reader's argument at all. The difference between the two cases was that one was an artist and the other was not; and the former attained excellence in spite of using the photographs, and would have been all the better for the education received by the other.

Mr. A. R. Dresser said Mr. Rossi referred to the photograph as a line drawing, and not as an art drawing, to be used for the purpose of the outline only. He also said that the apprentice was an artist, and that photographs only assisted him in his work.

Mr. Newman said a man must be an artist before a photograph was any use to him, for nobody could know better than he did the difficulty of copying a photograph. A photograph, too, might recall to the artist's mind passages which he might otherwise forget, though it might not teach him to draw.

Major Nott said there were few trades and professions to which photography was not now useful, and they had the word of an artist that it was useful in his own. Mr. Rossi said that the photograph was useful for giving the outline to a man who had not the power of accurate drawing. To his mind photography was one thing and art another, and he had not yet seen that the two met in any way whatever.

Mr. Rossi said he must emphasise the fact that photography was useful to art, especially in giving outlines to men who had not received an education in drawing. The apprentice benefited by the photographs because he had not that education, but no doubt he would have been all the better for the education. There were few great artists now who had not every photographic appliance, and who found the hand-camera a great use in getting records of groups of children and so on which they would otherwise lose.

The President said he was not going to agree that it took nine years to produce a photographic artist. He had worked at photography for nearly a quarter of a century, and it was very galling to find, when he entered his pictures for competition, that a man who had learned photography, as he called it, for six months took off the best medal. Mr. Davison might be a standing example of the nine years' apprenticeship, but he did not think he was. If a real artist chose to use a photograph it was perfectly legitimate.

Mr. Dallmeyer read a paper on "Limitation in the Treatment of Subjects by Focus," illustrated by a series of reproductions of photographs, showing the difference in the result of sharp, short, and long focus; and the conclusion he arrived at was that in the case of normal vision an object could be seen much sharper by a good lens than by the most perfect eye.

Major Nott said that in a stereoscopic slide he had recently seen of the interior of a cathedral he was able to tell marble from alabaster, and even the ages of the various pieces of alabaster, the gradations of colour were so well given. On examination by a glass he came to the conclusion that that was due to the absolutely sharp focus of the picture, one not so sharp not giving the same effect.

The President said if there was anything which would give absolutely correct perspective, it was a pin-hole. It was right that pictures should be taken absolutely sharply, because, in the case of large pictures—20 by 15—the eye looking at the principal point saw the rest of the picture out of focus in the same way as in nature itself.

Mr. Davison said gradation was not in any way a matter of focus; a pin-hole would give all the gradation of grass, rippling water, etc. Anything which rendered detail so finely as Major Nott had spoken of introduced considerations entirely different from those in the artistic mind. The artist did not want to know the difference in the looks of trees; the facts he had to depict were far deeper, broader, and wider than that. The whole question, however, was one for discussion, and some time was required for its consideration.

A paper on "Eclipse Photography" was then read by Mr. A. A. Common, F.R.S.; and Mr. W. T. Wilkinson gave a practical demonstration of the Collotype Process.

The Conference adjourned till the evening, when a lantern exhibition was given in the theatre.

FRIDAY'S SITTING.

Mr. Davison read an official communication from the Camera Club on the subject of regulations for photographic exhibitions. The following are the chief points of the communication:—

Introductory.—It has been pressed upon the Executive of the Camera Club that the matter of the better regulation of photographic exhibitions was one upon which the Club should make some pronouncement, and that it was advisable at this stage to carry further the action already taken in 1888, when, at a representative conference then held, a series of majority resolutions were adopted, and a number of influential opinions brought together in comparison.

The present action is taken in the hope that uniformity may be assured in the adoption of a code of regulations for future exhibitions.

Exhibitions appear to have taken a deep root in the world of photography, and the growth has been phenomenal. From the social and commercial, if not from the art view of photography, the effect of these exhibitions has been, and is, very considerable. They have taken their place naturally amongst photographic institutions and enterprises, and have given considerable stimulus to the popularity of photography, the increase of societies, and the growth of trade. It was but natural that in such a rapid and extended growth some weaknesses should have discovered themselves.

The object of the present movement is to make such suggestions or proposals as may aid in removing the more glaring of these defects.

The Camera Club has decided, therefore, to put forward the following rules for the conduct of open competitive exhibitions organised under the auspices of photographic societies:—

1. The following rules shall be known as the Camera Club Rules.
2. No prizes, medals, or awards offered for advertising purposes shall be admitted.
3. The names of the judges shall be announced upon the prospectus, or at least fourteen days prior to the date fixed for entry of pictures.
4. Exhibits shall be divided into two sections—an art section and a science section.
5. In the art section there shall be no classification whatever.
6. In the science section the classification shall not be restricted.
7. The number of awards shall be left to the judges.
8. Awards shall be all of equal value.
9. The Board of judges for the art section shall consist of men of recognised artistic ability.
10. In the science section properly qualified experts shall be appointed as judges.
11. All work in the production of the picture—selection, exposure, development, and printing—shall be done by the exhibitor.
12. That champion classes be abolished.

As recommendations, the Club desires to put forward the following suggestions:—

(a) That the power of rejection of inferior entries should be rigidly exercised.

(b) That with reference to Rule 6 greater effort should be made to encourage the exhibition of photographs, specimens, etc., illustrating the application of photography to: (i.) Astronomy; (ii.) Meteorology; (iii.) Microscopy; (iv.) Architecture and Engineering; (v.) Reproduction of Pictures; (vi.) Process Work; (vii.) Physiological; (viii.) Medicine and Surgery; (ix.) General Industrial Purposes (Linen, Lace, Pottery, etc.); (x.) Topography; (xi.) Geology; (xii.) Archaeology, etc.

(c) That retouching be declared.

(d) That proper and full provision be made for re-packing pictures for transit.

(e) That a small charge for wall space—minimum, 2s. 6d. for ten square feet—be made.

(f) That the number of photographs sent in to any one section by each exhibitor be limited.

(g) That each photograph in the art section shall be separately framed.

Whilst recognising that different possibilities are open to the organisers of exhibitions in large towns as compared with those opened in many provincial centres, the Club is of opinion that the chief recommendations urged would in no way affect the prosperity of the exhibitions, whilst their standing would be considerably raised.

The frequency of exhibitions is often referred to as the cause of many of the difficulties attending the system in general, and the Club cannot help recognising that the uninterrupted state of competition is fatal to originality and good work.

It is desired specially then to urge (i.) the rejection of inferior work altogether, (ii.) Reduction of awards, (iii.) Reduction of

classes, (iv.) Dispensing with advertisement awards, (v.) Greater attention and enterprise in stimulating scientific and industrial applications of photography.

In the art section the considerations which should weigh in regard to judging, classification, awards, framing, and hanging should be based purely upon artistic grounds.

Any distinction between amateur and professional in photographic exhibitions is considered absolutely unnecessary and greatly to be deprecated.

The Club looks forward to a time when it may be possible to dispense with awards entirely, and would approve of an exhibition in which no medals were offered, but in which greater stringency was exercised by the committee of selection, so that the honour of being hung would constitute an award.

Mr. Davison also read extracts from a number of letters from well-known photographers and societies upon various points in the paper.

The Rev. F. C. Lambert began by expressing a general concurrence with the paper, and then proceeded to give the points on which he did not agree with the Club. He thought there ought to be classification in the art section, or otherwise the work of the judges would be largely increased. He was strongly of opinion that it was undesirable to ask editors to be judges. In Rule 11 he was sorry that retouching was omitted; he would prefer that it should read, that all the work from the selection of the picture to the mounting should be the work of the exhibitor. He agreed with the abolition of the champion class if it meant that no picture was to receive more than one award. He would suggest further, that there should be a time limit; say no pictures were to be exhibited which were taken before the year last past, and that the number of exhibits should be limited. It would be better if the recommendation at the end suggested that the award should be made chiefly on artistic grounds, otherwise technical merit would disappear.

Mr. Charles W. Hastings said the question was whether the provincial societies could fall in with these rules. He had, however, a suggestion to make which might be acceptable all round. It was this: That a Permanent Exhibition Committee be constituted in London, the members to be drawn from the Council of the Photographic Society of Great Britain, the Camera Club, the Presidents of provincial societies, the Editors of the Photographic Press; and that there should be an annual exhibition held in London; provincial exhibitions to be held once in three years; that the United Kingdom be divided into thirty-six districts, and local exhibitions held, say, once a month; that the local exhibitions be under the control of local committees acting under the instructions of the permanent Committee; that no picture take a second prize at any exhibition; that permanent judges be attached to the Permanent Committee, but not necessarily resident in London. To carry out this scheme, funds would, of course, be necessary, and he could say that if it were adopted, instead of giving medals as he had done, he would be pleased to make an annual contribution to the funds. He was not at all sorry to see that there was a feeling arising in the country that editors ought to be relieved of the labour of judging.

Mr. Welford said Mr. Hastings' scheme came upon them as a surprise, and therefore he would not deal with it. Speaking as representing the provinces, however, he was convinced that it would not be safe to pass the suggested Camera Club rules. It was true photographic exhibitions were held in the provinces to aid photographers to see good work, but they were also for the purpose of educating the public to an appreciation of artistic photographs. It was essentially necessary that they should be a financial success, and such rules would prevent the exhibitions being held. He quite agreed that some improvements were needed. A journalistic position should debar editors from judging, and he agreed with Mr. Hastings that they would be glad of the relief; it would enable them to criticise more freely. To say there should be no classification in the art section was too sweeping a change to make at the present time, and would be too much for even the best judges they could get in the provinces. He could not see that any good was done to art by drawing a distinction between amateur and professional.

Mr. A. Maskell was opposed to any system of prizes or awards, and suggested the establishment of an annual Salon, or Academy, the prizes in which should be the places of honour on the walls. The hanging committee must be composed of men whose names would give absolute confidence to the exhibitors.

Sir David Salomons objected to landscape and portraits being considered under one head, and pointed out that considerable difficulty on that point had occurred at the Crystal Palace Exhibition. Tradesmen's medals were positively dishonest, and he had ceased to purchase goods from firms offering them. Technical and artistic merit should weigh equally in the judges' minds. There were many photographers who held that retouching was absolutely necessary, and he was of opinion that it should not be a disqualification.

Mr. Trueman Wood said that Pall Mall had practically adopted the no classification principle. He agreed with Mr. Lambert that retouching should be included in the work done by the exhibitor. The suggested abolition of the champion class required further consideration. He would suggest that the rules be referred back for further consideration in the light of the present discussion.

Mr. Davison pointed out that the rule leaving the number of awards to the discretion of the judges did away with the objections to no classification in the art section. With regard to the champion class, the Committee rather thought that point would be further considered, but certainly one picture one award would not meet the necessities of the case so long as the competitive system was adopted, as several well-known photographers only produced two or three works in the year, and they would not send them to exhibitions "not for competition." As to the suggestion that the word "purely" should be altered to "chiefly," that was unnecessary. Take a picture which should give the effect of a rainy day. If it gave that effect, it would be artistic and technically correct; if the technique were bad, it would not give the desired effect, and would not be artistic. Some of the suggestions of Mr. Hastings were very good, and that gentleman had certainly sprung upon them a very interesting set of suggestions which were worthy of consideration. He did not think that non-classification would affect the success of provincial societies. He would be delighted to see an Academy, or Salon, as suggested by Mr. Maskell. He hoped the suggestion to refer the rules back would be adopted.

The President said he had a very strong opinion of his own, but was not going to express it. He thought Mr. Hastings' scheme might be very admirable, and probably was, but there was the question of funds and annual subscriptions, which might not be so easy as Mr. Hastings seemed to think. Mr. Maskell had suggested that neither art nor science papers took any notice of the meetings of photographic societies. In the case of the Photographic Society of Great Britain that was entirely its own fault; the members complained that the papers were too scientific, and the Press judged them by what the members said of them. He would not put the rules to the meeting as a question, but ask them to vote on the point whether or not they be referred back to the Sub-Committee for further consideration.

The Conference unanimously decided that the rules should be referred back.

Lord Rayleigh read a paper on "Photography by the Electric Spark," which process he had applied to the purpose of securing photographs of a falling stream of water, the object being to show the effect of electricity on the water. By means of the optical lantern, it was shown that a small stream of water thrown vertically in falling gradually separated into numerous drops which separated widely. On exciting a piece of sealing wax, and approaching it to the seat of sensitiveness of the stream, it was observed that the drops, instead of spreading widely in small drops, amalgamated into fewer and larger drops.

Mr. Wollaston asked if those experiments did not explain the large drops of a thunderstorm.

Mr. Trueman Wood said he had repeated Lord Rayleigh's experiments made before the Royal Society, and he was astonished to find how difficult it was to get the image on the plate. He found that although the light was very high in intensity, it was very small in quantity, and he had to concentrate the light of the spark on a very small area before he could get any image at all. He also found that if the spark were allowed to pass directly across the plate it left a path, but only fogged the plate about a quarter of an inch on either side of the path.

Mr. Turner asked Lord Rayleigh if he had ever photographed drops falling on to a flat surface?

Mr. Eder asked if coils would not increase the brightness of the spark.

Sir David Salomons thought that method of photography might be applied to the observation of the secretions of spiders, silkworms, etc.

Mr. Wollaston asked if Lord Rayleigh had estimated the duration of the spark?

Lord Rayleigh, in replying, said no doubt electrification was connected with the large drops of a thunderstorm, but it was difficult to apply the explanation, as it might be that the amalgamation might be due to non-electrified drops being electrified by the discharge, or to highly electrified drops—which nominally repelled each other—being made less electrified by the discharge. To photograph falling drops was much more difficult than the experiment he had tried, as it was most difficult to get the spark at the precise moment at which the drop reached the plate. He did not think the coils would increase the light; the more rapid discharge would probably give the more brilliant light. He had not tested the duration of the spark, but a very weak discharge had been estimated to produce a spark lasting as little as the 1,000,000th of a second, while more powerful ones would probably last for the 100,000th to the 10,000th of a second.

The President said the print on a piece of paper revolving several thousand times a second had come out perfectly distinct on a daguerreotype plate. He had endeavoured to test the duration of the spark, and believed the result was about the 100,000th of a second. He thanked Lord Rayleigh for the lecture, and hoped it would not be his last communication to the Camera Club.

Captain Abney then read his paper entitled "A Photographic Untruth."

Mr. Trueman Wood, in proposing a vote of thanks to Captain Abney for his paper, remarked that he thought the members were in the same position as he himself—somewhat incapable of discussing the paper. He thought Captain Abney had alighted on a point that was extremely difficult.

Mr. C. H. Bothamley read a paper on "The Latent Image."

Mr. Spiller said that, owing to the lateness of the hour, it would be impossible to discuss Mr. Bothamley's very interesting paper. He believed that where the plates were exposed to the light bromine was really given off, but at the same time some gas was absorbed by the gelatine. He had, last summer, been over one of the largest plate manufactories in the kingdom, and had, he was confident, smelt bromine which was given off from large stacks of condemned plates, whilst being exposed to the light. With regard to the keeping of plates before developing, he had kept one for twelve months which had been developed satisfactorily, and he would like to ask members how long they had successfully kept plates before developing.

Captain Abney said that with respect to the smell of bromine he had nothing more to say, but he pointed out that something more than nasal proof was wanted to show that bromine was given off. He had almost proved that there was found in the image an organic combination which was destroyed by the action of heat. The subject of the "Latent Image" was a very difficult point, and he was glad that Mr. Bothamley had taken it up. There was one thing, however, he must say, and that was that Mr. Bothamley should not call his subject "Latent Image," but "Photograph Image." There was no such thing as "Latent Image."

Mr. Bothamley, in reply, said he knew it was usual to say that bromine was given off when silver chloride approached the light, but what he contended was that it was not known what was given off.

Captain Abney having proposed a vote of thanks to Mr. Bothamley,

Mr. W. T. Wilkinson then read his paper on "Photogravure Practically Illustrated."

The annual dinner was held in the evening at the Frascati Restaurant, under the presidency of Captain Abney.

CRYSTAL PALACE PHOTOGRAPHIC EXHIBITION.—Mr. Frank M. Sutcliffe writes, "The flash-light photograph of the Marchioness of Abergavenny's Lancers, which your critic upon the Crystal Palace Exhibition speaks of as one of my works, was, I understand, exhibited by Mr. H. J. Godbold, 8, Grand Parade, St. Leonards-on-Sea. As the photograph is, I believe, a successful one, perhaps you will kindly correct the mistake in your next issue, that the honour may be given to whom it is due."

Our Contemporaries at Home and Abroad.

L'Amateur Photographe (Paris) gives the following reducing-bath for negatives: Place the negatives in water for half an hour, and then in a bath of 100 parts of water, four parts sulphuric acid, six parts of 30 per cent. solution of bichromate of potassium. The action of the bath is very energetic, and should be carefully watched. The reduction takes place very uniformly, and no discolouration of the negative takes place. The negatives [so reduced can, if desired, be subsequently intensified. Articles: "Collodion Dry Plates and Gelatino-bromide Plates," "Photography and its Industrial Applications."

Wilson's Photographic Magazine, speaking on "Photographic Groups; Some Hints upon Them," says, "The truly universal principle of good compositions, if there is one, seems to be a certain sinuous sway of lines, and a harmonious connection of things with one another, that balances mass with mass, and gives that indescribable sense of satisfaction to the eye in passing from one to another. This is what we feel, rather than any cold and mathematical arrangement of symmetrical pyramids or complete and uniform circles. It must be much more felt than done by rule. The trouble lies in taking these abstract formulæ as rules. Any plate of the Crucifixion, for instance, by the old masters, will show how thoroughly covered up, and modified, and transgressed they have been." Articles: "To Catch a Speaker's Gestures," "An Apparatus for Cutting off the Lighting in Parts of a Landscape," "Practical Interpretations of the Laws of Conjugate Foci," "Faith, Hope, and Charity," "A Ray of Light thrown into Darkness," "A Photographic Stone-etching Process," and "Group Prizes" (illustrated).

The Deutsche Photographen Zeitung (Weimar) contains an article by Professor Schirm on "The Magnesium Flashlight in Photography," and also a description of Voightländer's Iris diaphragm shutter.

Photographic Globe (New York), the first number of which is just issued, says, "We have reached a climax in plates and their developing agents with which we are satisfied; let us turn our attention to another side and perfect the method of silver printing. . . Why cannot we buy prepared paper which will print in a reasonable time and fix and tone as rapidly as plates are developed and printed. It is true that process printing has been brought to an admirable point, but the photographer could not go to the labour entailed, to say nothing of the expense involved, to reproduce a dozen portraits or less. What we want is paper which will print and tone with less preparation and trouble than at present, to produce results equally good or better." Articles: "Toning Aristotypes," "The Simplicity of Development," "The Survival of the Fittest," "Professional versus Amateur," "Blisters," "Brilliant Prints," and "The Photographic Fad." The frontispiece is a print from a negative by E. C. Dana.

The *Photographic News*, speaking of "Aluminium in Photographic Apparatus," says, "The alloy likely to be most useful in photographic apparatus must be one not seriously above the weight of pure aluminium, and a good one for the purpose consists of ninety-five per cent. aluminium and five per cent. silver. We have reason to suppose that some of the aluminium now used in photographic good on sale in the market is slightly alloyed with another metal, which we guess to be possibly silver. An aluminium-silver alloy in the proportions just stated possesses, according to Tissier, an elasticity which is wanting in the pure metal, also a greater hardness and capability of being polished. An alloy of aluminium with German silver has excellent physical properties, and as this alloy is in the market, it may probably be that used in the portions of photographic apparatus. Any alloy of real silver and aluminium is attacked somewhat by sulphur." Articles: "The Crystal Palace Photographic Exhibition," "Photography at the Royal Meteorological Society," "Photography in Natural Colours," "Chromo-Photography by Block Printing," "Another Photographic Survey," "Sizes of Photographic Plates," "People with Double Faces," "Modified Collodion Emulsion," "Grade in Professional Photography," and "Celluloid or Cello-lonite?"

Anthony's Photographic Bulletin (New York) says, "In regard to the matter of flash powders, we must continue to protest against the use of any magnesium powder that contains any

oxidizing material added to facilitate the combustion of the metal. Those of our readers who think we are too severe upon these powders should read the little pamphlet on 'Flash Powder Explosions,' written by Dr. Charles Mitchell, of Philadelphia, in which the author states that all forms of flash-powders are dangerous. And we know of a number of minor accidents that have never been reported in the journals, where burnt hands and faces testify to the extreme danger attending the use of all flash powders except those made with pure powdered magnesium metal alone." Articles: "Where to Photograph," "The Chemistry of Uranium and its Salt, and their Behaviour in Photography," "How to obtain thoroughly Clear Gelatine Negatives," "The Silver Printing Bath," "The New Benzoline Limelight," etc.

The *American Lithographer and Printer* (New York) contains descriptive articles on "Half-Tone Etching," and "Photo-Lithography, and the New Albert Photo-Lithography Transfer Paper."

The *British Journal of Photography* says, "It is a matter of comment amongst the votaries of our art science that the light we have had during the past month or more, has been, in actinic quality, far in excess of what is usual at this season of the year. Its immediate effect is most noticeable in negatives taken by amateurs with shutter exposure. For months past the majority of these pictures, we learn from those who develop large numbers of 'amateurs' negatives, have been little better than silhouettes through under-exposure. Now, however, similarly timed, they show a certain amount of detail even in the shadows. It is no unusual thing for inexperienced amateurs or beginners to use the shutter with the same rate of speed—generally the quickest—for all subjects, quite regardless as to whether the light is good, bad, or indifferent, with the result so frequently met with in amateurs' work of this case." Articles: "The Fading of Prints," "Scientific Appliances for the Lantern," "A New Form of Albumen," "Density in Negatives for Enlargement," "The Art of Retouching," "Stereoscopic Matters," "Reducing Agents," etc.

The *Photographische Rundschau* (Vienna) contains articles on "In the Land of the Pharaohs," and "P. Mössard's Cylindro-graph," a new form of camera. The current number contains several illustrations, one being a magnificent collotype of a bunch of flowers taken on an orthochromatic plate, and it is difficult to believe that even a direct print from the negative could be better.

Photography, in an article on "Eikonogen," says, "There is a general idea that ammonia is not a suitable alkali to use with eikonogen, and many observers have testified to the truth of the notion. It has, however, lately been stated that ammonia may be used, and that many have been successful with it. If the drawbacks to its employment have been got over, it remains to be shown in what way ammonia is superior to sodium carbonate, because for practical use we do not wisely adopt what can be made to serve, in spite of its disadvantages, instead of that which is to all intents and purposes free from drawbacks." Articles: "The Camera Club and Exhibition Matters," "Life-sized Transparent Positives," "Experimenting with Oxygen Cylinders," "The Crystal Palace Exhibition," etc.

The *Photographic Times* (New York), in an article on "Photography as an Aid in Medicine," says, "A question may arise, 'Is it well for the amateur to develop and print his own pictures?' The answer I would give to this is, he should always do the developing, as by this means he learns whether he is giving correct time of exposure or not. As regards printing, that had better be given to a professional, as it requires a good deal of time and patience without sufficient compensation." Articles: "How to Calculate the Speed of a Shutter," "A Successful Woman Photographer," "The Old versus the New," "Photographs Plain or Coloured," "Photographs as Evidence," "Copyrighting a Pose," "Gelatine Lantern Slides," etc.

The *Studio* (New York) contains three full page engravings, all showing excellent workmanship, and the articles are on the "Address of Mr. W. M. Chase before the Buffalo Fine Arts Academy," "Robert Browning's Funeral," "A Bust of Tiberius," "Böcklin and his Newest Picture," "Eustache de St. Pierre," "The Last of the Dureal Gallery," "Another Cruikshank Find," "Translation from Horace," "A Monument to Jeanne d'Arc," etc. The readers of the *Studio* are promised at an early date a print from Robert F. Blum's etching from the picture, "The Lady

with a Rabbit," in the Gallery of Old Masters in the Yale School of Fine Arts. The picture is attributed in the catalogue to Francia, and is called, "A Portrait of a Princess of the Vitelli Family." The attribution may safely be questioned, but there can be no doubt as to the pictorial interest of the picture.

Science Notes.

SIR DAVID SALOMONS, a name well known in the photographic world, has given £1,000 to the Institution of Electrical Engineers, to found a scholarship of £35 per annum, to be held for three years, and be at the disposal of the Institution.

Messrs. Stengel and Markert, of Dresden, have lately issued an albumen of photographs, the work of Dr. A. B. Meyer, Director of the Zoological and Ethnographical Museum of Dresden, which contains thirty-seven plates, on which about 250 reproductions are printed. The subjects include all the types of the native population of the island of Celebes, in the East Indies, where Dr. Meyer has spent some time in the study of anthropology and ethnology.

Messrs. G. W. Bacon and Co., of the Strand, have just issued an admirable "photo-relief" map of Scotland (photographed from a model), which exhibits the mountains, etc., with a natural shading which cannot be produced so well in any other way. It is necessary to touch the map, in order to assure one's self that the surface is not in actual relief. This is an excellent application of photography.

The February number of the "Monthly Notices" of the Astronomical Society contains an excellent biography of Warren De la Rue (1815-89), the pioneer of celestial photography in England. He was attracted to this work by the daguerreotypes of the moon sent to the Great Exhibition of 1851, by Bond (U.S.A.) In De la Rue's early work he was assisted by Thornthwaite and by Howlett, and the photographs of the moon which he obtained with a 13-in. refracting telescope in 1857, stood a magnification of sixteen diameters. He was the first to obtain stereoscopic pictures of our satellite; and on his expedition to Spain to observe the solar eclipse of 1862, he obtained the first photographs of the red prominences, and proved them to be solar appendages.

During 1889 the sun was photographed at Greenwich Observatory on 190 days, and 410 of the photographs have been selected for preservation.

The automatic photograph machine, of which M. Cheron is the inventor, and Messrs. Salter, of West Bromwich, the makers, is, mechanically, a success. The victim gets on a stand 2 or 3 ft. from the machine, puts a penny in a slot, and looks intently in a small mirror just above the lens. The exposure lasts for a couple of seconds, when a small bell rings to indicate that "all is over." A noise of clockwork is then heard inside the machine, which indicates that the plate is passing through the developing, fixing, and washing baths. Then something is heard to drop into a small box in front of the machine, and on lifting the lid a portrait on a sheet of thin iron is seen—a "tintype," in fact. For a halfpenny dropped into another slot a gilt frame can be obtained. A party of capitalists as well as of Pressmen have been down to see the machine at work, and during this visit the machine "took" 200 photographs with complete success. It is able to take 300 before it requires re-charging. An electric light can be fitted for portraiture at night, if necessary. Patents for this machine have been secured in twenty-six countries.

About a twelvemonth ago, Dr. Hodgkinson, of the Royal Naval College, Woolwich, brought forward some evidence tending to show that the blackening of silver chloride on exposure to light was due to the formation of an oxychloride, the oxygen, of course, coming from the air. This view has been controverted by the famous American lawyer-chemist, Carey Lea, of Philadelphia, who gives instances where the blackening takes place when oxygen is not present. For instance, pure silver chloride was melted and poured into refined petroleum (a liquid devoid of oxygen), in which the silver chloride immediately solidified and lay at the bottom, being thus protected from the air. When the vessel containing the petroleum, etc., was taken into the sunlight, the silver chloride instantly blackened. Similarly the black photo-iodide of silver was obtained by the action of iodine, or pure silver, under petroleum.

To the new generation of photographers the name of Carey Lea is almost unknown. But the "wet collodion" men will remember him as the discoverer of the ferrous-oxalate developer in 1878, and as the American correspondent for many years of the *British Journal of Photography*.

The Ilford Company are following the lead of the AMATEUR PHOTOGRAPHER, for they offer a Scholarship for photography. An admirable means of disposing of such a scholarship would be to give it in connection with the annual technological examination in our science held by the City and Guilds Institute, the examiner being Captain Abney. An age limit should be adopted—say twenty-five. The winner should be required to devote one year, say, to work in England, at the Polytechnic, for example, one year in Berlin, and one year at Vienna under Professor Eder.

The business of making bore-holes into the earth in search of coal, etc., has now become almost a science, and the latest boring of this kind has reached coal under Dover at a depth of 1,180 ft. In connection with such attempts it is of the highest importance to discover the inclination or dip (if any) of the strata forming the sides and bottom of the hole. It would be perfectly feasible to lower a small camera, provided with a flash-light apparatus, actuated by electricity, and to obtain photographs at any desired depth. The Americans have been leading the way in this matter, and the *Philadelphia Times* states that the bottom of an oil-well 1,700 ft. deep and 6 ins. in diameter has recently been photographed at Warren. The bottom of the well had been enlarged by exploding there bombs filled with nitro-glycerine, and the photograph revealed a cavity 14 ft. broad and 7 ft. deep. "Has Nature any more secrets she would like to hide from inquisitive man? If so, they will need to be buried beyond the reach of the steel auger or the diamond drill. Into the deepest recesses which the drill can penetrate, the modern photographer stands ready to turn the broad light of noonday."

How curious it seems, this letting down of an automatic self-recording eye into the bowels of the earth!

An American photographer has patented a method of obtaining diffusion of focus—breadth without fuzziness—by using two diaphragms in the lens-tube, the first diaphragm being covered with a fine network of wire. The opticians will doubtless characterise this as "an ingenious expedient for spoiling the lens," and they will not be far wrong.

The month following the appearance of these notes will probably be the best in the whole year for instantaneous photography. Give your shutters a good overhauling—they will need it—and oil them carefully. Wipe your lenses with a little alcohol, and let your camera be thoroughly light-tight. Then sally forth on a warm April day, after a shower, keep the sun well over one shoulder, and you may use an aperture of $f/16$ and an exposure of the hundredth part of a second, and still find your plates "fully exposed." But you must use fresh plates; last year's stock won't do for such work. Reserve the old plates for "time" exposures. F. G. S.

FALLOWFIELD'S WEST-END PREMISES. — We are asked to announce that Mr. Fallowfield's West-end premises in Charing Cross Road are now nearly complete, and as soon as the show-rooms and warehouse are fitted up, the premises will be opened as a central depot.

BROMIDE PAPER. — A correspondent writes, "Would it not be an improvement if makers of bromide papers were to place a mark in a corner of the back, to distinguish the front from the back? A cross or possibly the maker's name would have the required effect."

LANTERN OBJECTIVES. — Mr. W. H. Jones writes, "I am obliged to Mr. T. S. Mayne for noticing my query, but he does not give me the information I require, namely, how would a disc 21 ft. in diameter, projected on a screen by a 6 in. focus objective, working at $f/4$, compare in brightness with a disc of 15 ft. diameter, thrown by an objective of 12 in. focus, also working at $f/4$? There must be some optical law on the subject, and this is what I desire to know. I quite understand that an opaque screen gives a much better effect than a semi-transparent one, and that a disc of 15 ft. diameter would be infinitely brighter than one of 21 ft. when projected by the same objective. I, however, think that in a hall of great altitude and length a 15 ft. disc looks very insignificant."

Societies' Meetings.

NOTE.—In this column the Editor can, of necessity, only give a brief summary of the proceedings. The PHOTOGRAPHIC SOCIETIES' REPORTER was established to report the transactions of Societies, and the Editor will be glad to receive reports for insertion as early as possible after the meetings have been held, and at the latest before the 24th of each month.

CARDIFF AM: PHOT: SOC:—The usual weekly meeting was held on the 19th inst., E. H. Bruton, Esq., A.R.I.B.A., in the chair. In response to the invitation of the Camera Club, after long discussion the following expression of opinion was requested to be sent *re* exhibition matters:—(1) That exhibition authorities should not decline prizes placed at their disposal for the purposes of advertising. (2) That the restriction as to number of awards should be left to the discretion of the Committee. (3) That the value of awards should be left to the discretion of the Committee. (4) That the suggested classification in the art sections should be as follows: (a) landscape, and landscape with figure, (b) figure subjects, (c) portraiture, (d) architectural, (f) lantern slides, same to be classed as indicated in previous sections, (g) enlargements, same to be classed separately. (5) That with regard to the selection and constitution of judges a list should be kept at the Camera Club of gentlemen willing to act in the different sections, and that editors of photographic journals should be excluded. (6) That it is desirable to announce the names of the judges at the earliest opportunity, same to be printed in the prospectus if possible. (7) That with reference to the working of the champion classes, this class should be restricted to pictures that have been medalled during the two years previous to the opening of the exhibition, and must not have been exhibited at any prior exhibition of the society. (8) That work by several should be eligible for competition, but this should apply to professional work only. (9) That judges should be requested to withhold awards in cases of insufficient merit. Retouching allowable. One subject one frame. Diplomas and medals. Separate classes for professionals and amateurs. Hanging committee should be appointed. One picture one class; if entered for two classes, duplicates to be sent. Mr. W. H. Kitchen delivered a lecture on "Enlarging." Mr. S. W. Allen, M.I.M.E., delivered a public lecture on the 25th inst. under the auspices of the Society, subject "The Forth Bridge."

CREWE AM: PHOT: SOC:—At a special meeting held on the 17th inst., it was resolved to remodel the Society; the rules were revised, and the society reorganised. It now promises, from the numbers who have joined, and are practically interested, to prove a valuable help and benefit to the amateur photographers in the town. The general meetings are to be held quarterly, the first Thursday evenings in the months of January, April, July, and October. The annual soirée to be held in January. Meetings in future to be held at the photographic studio of Mr. W. Booth, chemist, Chester Bridge.

CROYDON CAMERA CLUB.—The second ordinary meeting was held on the 24th inst. The amended rules were read and approved. Mr. P. Overton had joined the Council. The President then introduced the subjects which the members had met to consider, and defined the requirements which a good hand-camera should possess. He next explained the action and construction of the No. 2 Kodak. Mr. W. J. Bishop showed the working of hand-cameras by Fallowfields, Samuels, Turnbull, and Stirn. Mr. Alfred Underhill showed a large stand of lantern transparencies. Mr. Overton also exhibited a collection of sharp and brilliant slides. The next meeting is fixed for Wednesday, 9th April, when a demonstration of the various forms of platinotype printing will be given.

DEVON AND CORNWALL CAMERA CLUB.—A lantern evening was given on the 17th inst. Mr. S. Weekes passed through the Club lantern about 200 slides of his own making and from his own negatives, making appropriate remarks upon each. The lecturer led the company from Plymouth to the South of France, thence to Venice, Rome, the Italian lakes, Switzerland, and back to Devon and Cornwall, winding up with groups, both grave and gay, of persons associated with the Club either as members or friends.

EAST DULWICH AND PECKHAM PHOT: SOC:—The first meeting in April (falling on Good Friday) will be omitted. The annual meeting is postponed until Friday the 18th April.

HACKNEY PHOT: SOC:—The attendance of members on the 13th inst. was a very good one, the promised lecture of Mr. J. Traill Taylor proving an attraction. That gentleman gave an instructive discourse on "Optics as Applied to Photography," profusely illustrating his remarks with diagrams on the blackboard. A discussion followed, and a well responded to vote of thanks concluded the proceedings. Mr. Wall has promised to read a paper on "Chemistry," on May 22nd.

HOLBORN CAMERA CLUB.—The ordinary meeting on Feb. 21st was devoted to the instruction of beginners, when the first principles of bromide silver and platinotype printing, and of development, were expounded to an attentive audience by Messrs. Smith, Dear, Brocas, and Bayston. On Friday next, after the usual monthly lantern show, to which visitors will be welcome, the prizes won in the recent competition will be presented. Hon. Sec. E. C. Bayston.

KEIGHLEY AND DISTRICT PHOT: ASSOC:—An ordinary meeting of the Association was held at the Rooms, Mechanics' Institute, Keighley, on the 19th inst., Mr. Alex. Keighley (President) in the chair. There was a good attendance of members and friends, when Mr. G. W. Bater, one of the members, read a paper entitled, "A Tour in Germany." A splendid collection of slides, illustrative of the route, scenery on the Rhine, castle and other ruins, some of the chief buildings of the large towns, and a number of instantaneous views of the town and village life were exhibited by the lantern. The lecturer gave a very graphic description of the slides as they appeared on the screen, and the manners and customs of the inhabitants, also historically explaining many of the old ruined castles found in the valley of the Rhine and district, and some of the chief buildings in Frankfort and other large towns; in some instances explaining the exposure, development, and other matters pertaining to the negatives and slides. A very enjoyable evening was spent, concluding with the usual votes of thanks.

KENDAL LIT: AND SCIEN: INST.; PHOT: SECT.—The usual monthly meeting was held in the Museum Library on the 12th inst., Mr. F. W. Crewdson in the chair. Mr. Isaac Braithwaite gave an account of enlarging by both daylight and lamp-light, exhibiting a number of enlarged prints which elicited a good deal of favourable comment. Several other members gave their experience and showed examples, and considerable and very interesting discussion ensued. It was decided that the next meeting be devoted to a discussion on "Hand Cameras," and the Secretary was requested to arrange for the loan of several from manufacturers and others.

LIVERPOOL AM: PHOT: ASSOC:—On Wednesday evening, the 19th inst., the second of the series of practical demonstrations, mainly for the instruction of beginners, took place at the society's rooms, Crescent Chambers, 3, Lord Street, when, as arranged, Mr. J. L. Mackrell was the demonstrator. He in a practical and lucid manner interested and instructed his audience. The chair was occupied by Mr. Paul Lange, and although the meeting was not in any way of a formal nature his duties as Chairman were merely nominal, but his experience of the matters in hand, "Focussing and Exposing," was a feature. Several other of the older workers assisted in making the evening's instruction most enjoyable and profitable. We merely mention in passing the names of the Hon. Secretaries, T. S. Mayne and E. M. Tunstall, both workers of some considerable experience. The attendance showed a large increase and was numerous. The next demonstration will take place on Wednesday, 2nd of April, embracing the important phase of developing, when three different modes now in popular use will be treated in a practical way.

LIVERPOOL UNIVERSITY COLLEGE PHOT: SOC:—This Society held the last meeting of the present session on the 17th inst., Dr. Kohn, the President, in the chair. There was a good attendance. Dr. F. Hurter read a paper on "Recent Photophysical and Photochemical Investigations," giving the result of several years' work done by himself and Mr. Driffeld. After explaining how light was absorbed by passing through dark and coloured media and obtaining definitions of transparency, opacity, and density from the observed phenomena, Dr. Hurter went on to describe an instrument for measuring the density of negatives. He exhibited two forms of this instrument, the later form being much simpler in construction, and easier to manipulate than the earlier one. The instrument is essentially a Bunsen's photometer, graduated so

as to give at once the logarithm of the opacity, a quantity best suited for the plotting of the results on a curve. A slight discussion followed, and a hearty vote of thanks was accorded to Dr. Hurter for his valuable paper.

LONDON SOCIAL CAMERA CLUB.—On Wednesday the 13th inst., about sixty members and friends assembled at Carr's, in the Strand, the head-quarters of the club. About one hundred slides, by members, were first put through the lantern, after which a fine series by Mr. J. B. B. Wellington and Mr. E. R. Shipton (of the Camera Club) were thrown upon the screen, as also were some interesting views, taken in Norway, by Mr. R. E. Phillips, with which Mr. Herbert Smith, who worked the lantern, gave an amusing and original sketch of an imaginary expedition, supposed to be suggested by these slides, afterwards showing the now celebrated views lent by the Boston (U.S.A.) A. P. A. Most of the well-known "Socialists" were present, W. H. Cornell in the role of lecturer.

LONDON UNIVERSITY COLLEGE PHOT: SOC:—The usual meeting was held on the 11th inst., Dr. R. T. Plimpton in the chair. Dr. N. Collie, F.R.S.E., read a paper on "The Chemistry of Photographic Developers." The simplest form of development was first noticed, where a ferric salt has been reduced by light to a ferrous salt, when the nearly invisible image can be made visible by washing with ferriyanide of potassium or treating with a silver or gold salt, which metals are deposited where the iron has been reduced, thus developing the image. The development of the invisible image on the photographic plate was then noticed, and it was pointed out that in this case, as only an infinitesimal quantity of haloid salt of silver undergoes change during exposure to light, development has to be carried on in a different way from that already noticed. The alkaline developers—pyrogallie acid, hydroquinone, etc.—were next mentioned. These developers are characterised by their great affinity for oxygen, and differ from ferrous sulphate, the reaction of which with nitrate of silver was discussed, in being able to reduce the haloid salts of silver. The actual chemical change which takes place when a plate is developed by any of these substances was shown to be the same. The question why silver is deposited on one part of the film and not on another, thus forming the image, is explained by the assumption that electro-chemical decomposition occurs. It was, finally, pointed out that in all ordinary cases of development a reducing substance was necessary, and usually the greater the reducing power the more powerful the developer; and as there are numberless substances amongst organic compounds which possess this reducing power in a greater or less degree (phenyl hydrazine was shown as an example), the choice of new developers is, probably, by no means limited. In the discussion which ensued, Mr. E. S. Worrall criticised eikonogen as being admirably adapted for certain kinds of work, but, to get a good negative, he preferred the yellow image obtained by using the old-fashioned pyro developer.

NORTH LONDON PHOT: SOC:—The ordinary meeting was held on the 18th inst., Mr. J. Traill Taylor (President) in the chair. Mr. Howson, from the Britannia Works Company, attended to give a demonstration on "Printing on Alpha and Bromide Paper." A large number of specimen prints, both on Alpha and bromide papers, were exhibited in the room, and greatly admired by the members. The arrangement for making the exposures consisted of two argand burners supplied with gas through a Sugg's regulator, so that the number of feet burning per hour might be known. Behind this was placed one of Chappuis' circular reflectors fixed in a stand, and the light was thrown on the negative through a screen of oiled paper. The printing frame was placed upon a stand, which could be easily removed to any distance from the light, the distance being marked upon the base-board of the stand. A discussion followed. The Chairman then announced the meeting on April 1st would be a lantern night, at which Mr. Reader would take the chair, and on the 15th inst. he should be happy to give them a paper on "Stereoscopic Photography."

NORTH MIDDLESEX PHOT: CLUB.—There was a numerous gathering of members and friends at Beales' Restaurant, Holloway, on Saturday evening, the 15th inst., the occasion being the annual dinner. Several members of other London photographic societies were present. Mr. J. Humphries, F.S.A. (President) occupied the chair. The usual loyal toasts having been honoured, Mr. J. W. Marchant proposed the toast of the evening, "The North Middlesex Photographic Club and

its Officers," which was responded to by the Chairman, who briefly sketched the position of the Club, and alluded to the ability and energy displayed by the Council and the Hon. Secretary (Mr. G. R. Martin) in the past year, and to the successful manner in which the arrangements in connection with the recent exhibition of photographs and soirée had been carried out by them. The roll of membership had increased, as also had the finances of the Club; the lectures and demonstration had been well attended.

PHOT: SOC: OF IRELAND.—At the meeting on the 24th inst., Dr. J. Alfred Scott (Vice-President) in the chair, Mr. J. Joly, M.A., delivered a lecture entitled "Among the Alps with a Camera." The photographs were taken *en tour*, commencing at Brunen on Lake Lucerne, and terminating at Ursigue. The chief of them were exhibited either in reductions or contact slides, and comprised about seventy-two views. The exposures were varied from one-fifth second with small stop to whatever the light indicated for foreground. In this latter particular assistance had been found by resorting to the standard tables now published by various authors. The camera, $7\frac{1}{2}$ by 5, was supplied with a Dallmeyer R.R. landscape lens. Plates used were Wratten and Wainwright's. With regard to development, pyro was first tried but afterwards discarded, and hydroquinone entirely used. To get the best results, Mr. Joly developed by the "partial" method recommended by Dr. P. H. Emerson and Capt. Abney. The sky and bright lights, as from snow, were first brought up, and development of them stopped by plunging the plate in water. The development of the foreground is then proceeded with by dipping and brushing on a stronger developer, *i.e.*, a weak developer is used in the first part of the process. When detail is obtained the development is equalised by putting the plate back into the developer for a moment. Washing, fixing, etc., completes the process. The details were good, while the snow, glaciers, and skies were excellent. Instances of passing mists, or mountain tops peeping through clouds, showed that the lecturer and his fellow-traveller (Mr. Dixon) had displayed great taste in selecting their views, and great judgment as to exposure and development.

SHEFFIELD CAMERA CLUB.—A special meeting of the above Society was held on the 12th inst., to hear a lecture by Mr. H. W. Smith, the representative of the Eastman Company. The first part of the evening was taken up by the explanation of their enlarged "Kodak" camera, the roller slide, and new transparent films. Mr. Smith then proceeded with the main subject of his lecture, "Enlargements on Bromide Paper." After detailing in a clear manner the most suitable lights, developers, etc., he gave a practical demonstration on the Eastman paper by means of the oil lantern, explaining step by step the interesting process.

ST. BARTHOLOMEW'S HOSPITAL PHOT: SOC:—A meeting was held on the 12th inst., when the above Society, which is confined to amateurs, was formed, and the following officers were elected: Dr. W. J. Russell, F.R.S., President; Dr. V. D. Harris and Dr. H. Lewis Jones, Vice-Presidents; Dr. James Andrew, Hon. Treasurer; and Mr. W. B. Jones and Mr. W. J. Armitage, Hon. Secretaries. The chief object in the formation of the Society is the application of photography in the study of medical science. Thirty gentlemen have already joined.

WALLASEY PHOT: ASSOC:—The ordinary monthly meeting was held on the 5th inst., at the Association Room, Egremont Institute, Mr. E. Kite (Vice-President) in the chair. Mr. H. Wilkinson gave a most interesting paper on "Clouds and Cloud Negatives." He commenced by saying that a photograph showing a cloudless sky was now happily beginning to be a thing of the past. Some amateurs bought their cloud negatives, but unless they were prepared to lay in a stock their pictures became wearisome by reason of the same sky being repeated through all classes of subjects. Cloud pictures were by no means the least difficult branch of an amateur photographer's work, though it was a most interesting one. A suitable cloud would often change a somewhat indifferent subject into a really good picture. A cloud suitable for the general run of pictures, of which nine out of every ten were got in broad sunlight, was the cumulus, which consisted of broad masses of vapour. It was, however, a difficult effect to get, and he used a coloured screen and isochromatic plates, the contrast between the blues and white obtained thereby being most satisfactory. Mr. Wilkinson illustrated his lecture with a large number of negatives taken by himself. The evening closed with an exhibition of hand-cameras.

WOLVERHAMPTON AM: PHOT: SOC:—The second annual meeting took place on the 18th inst., Mr. T. Ironmonger, President, in the chair. The annual report, with statement of accounts, was presented by the Secretary (Mr. J. W. Evans), and showed that twelve meetings of the society had been held during the year, at which there had been an average attendance of twenty-five. Various papers had been read and demonstrations given. The membership of the society now numbers fifty-five, and there was a balance in hand of £5 14s. 5d. The first exhibition in connection with the society had been held in the course of the year, and the Committee congratulated the society upon the interest which had been taken in it, 21,400 persons having visited the Art Gallery during the time that the exhibition remained open. Mr. Perry said that thirteen new members had joined the society during the past twelve months. The following officers were also appointed:—Vice-Presidents, the Mayor, Mr. J. Forsyth, Lieut.-Colonel Thorneycroft, Mr. C. T. Mander, Mr. G. B. Thorneycroft, Mr. L. Morton, Major Hay, Captain Wight-Boycott, and Mr. Lyons Wright; Treasurer, Mr. Gibson; Secretary, Mr. Evans.

Exhibitions.

THE CRYSTAL PALACE EXHIBITION.

(Continued from page 201)

A VISIT of inspection to the exhibits of Messrs. Noakes, of Greenwich, will well repay those who are more particularly interested in matters pertaining to the optical lantern, for here on view are lanterns of every size and approved design, alike suited to the requirements of the lecturer, as well as the mere tyro. This firm is also the sole agent of the "Key" hand camera, which has already secured a place on that section of the apparatus department. They also show a large collection of English condensers, some of large dimensions and all at reasonable prices.

Messrs. Theobald and Co., of Kensington, have also a big show of lanterns, lantern slides, and enlarging cameras, one of the latter having gained the medal at last year's show. This firm appears to be fully alive to the value of judicious advertising, as well as the best medium of obtaining business publicity, for here may be seen a bevy of young damsels actively engaged in the preparation of coloured lithographic slides for lantern use. This being a speciality of the firm this constitutes a veritable "draw to their stand, visitors being attracted thereto, either by the charms of the young ladies themselves, or that of their handiwork, or possibly the happy combination.

The exhibit of Holmes, Sadler, and Holmes is confined exclusively to photographic furniture and accessories, and, therefore, stands in this respect unique.

Another stand, also unique in its way, is that of B. J. Edwards, of the Grove, Hackney. This exhibit is very neatly arranged, one side and the two ends of an oblong square being covered with large photographs from the best studios, including copies of the gold medal pictures just awarded to Lafayette, of Dublin, the other side being specially arranged for showing negatives and transparencies, the comparative results of ordinary and isochromatic plates, with which it is filled. Some of these are of striking value, as proving most conclusively the great power which, with judicious use, is placed in the hands of the intelligent worker. Special notice may be called to a vase of flowers, with a sliced lemon lying at its base. These when viewed by gas-light during the evening often form the subject of very interesting remarks.

The optical department has a worthy representative in the firm of Taylor, Taylor, and Hobson, of Leicester and London. Their show is not extensive, but the most noteworthy part of it is the photographs they exhibit as having been taken with their lenses. These are such as should satisfy the demands of the most exacting critic, being interiors of large dimensions, having absolutely straight marginal lines, and full of exquisite definition. These are severe tests, and consequently attract much attention.

Messrs. Shew and Co., of Newman Street, Oxford Street, are exhibitors principally of their now well-known "Eclipse" hand camera and shutter, and good examples of work done by them are also shown.

By no means the least interesting part of the exhibition is that of the periodical practical demonstration, given by the Platinotype Company, and tending still further to popularise this charming process, and it is highly gratifying to notice that year by year it continues to increase its hold upon the affections not

only of those interested in the practice of photography, but the public generally.

An interesting novelty in the way of hand-cameras is that invented and exhibited by Messrs. T. Riley and Son, which is got up to represent an ordinary Gladstone bag. The distinguishing feature of this camera is, that by one movement only the plate is changed, and the exposure made, the duration of time being entirely at the discretion of the operator, at the very instant of making the exposure. The camera itself consists of a rectangular box, which slides into the bag from the bottom, and is secured by means of straps; protruding from the camera is a small pin, sliding in a slot out in the bag, this pin being the sole medium by which it is worked. The plates are carried in sheaths in a vertical position, fixed to an endless band, rotating horizontally round two rollers. These are turned by means of a lever; a forward pressure causes this lever to turn the rollers just sufficient to bring the first plate into position, which is there held quite rigid, at the same time engaging itself with the shutter. Then, by removing the thumb from the pin, it is pulled back by a spring, causing the lever to open and shut the lens very rapidly. If a time exposure be required the pin is allowed to travel back until it reaches an indicating mark, and, being held there, long exposures can be obtained. The ease with which this camera can be worked, coupled with its moderate price, will doubtless command for it a ready sale.

The firm of Sands and Hunter make a capital show, as usual, of high-class cameras, fitted with their well-known instantaneous shutter, the capability of the latter being amply proved by a choice selection of instantaneous photographs, by the best-known workers in that branch. A most artistically-arranged table of artistic materials is that of Mr. Leek's, the well-known fine art publisher of Bedford Street, Strand. High-class portraits and groups of Royal and other distinguished personages arrest the attention to their stand of the passers by.

Messrs. Crouch and Co., of Barbican, London, exhibit a case of lenses and cameras, which, however, call for no special comments.

Messrs. Trevor and Co., of Plymouth, have introduced a speciality in postal wrappers for photographs, which are evidently having a good run. The idea is exceedingly simple and well worth the attention of those who are obliged to trust their work to the tender mercies of post-office officials.

Messrs. G. Houghton and Sons exhibit a large and varied assortment of photographic requisites, the principal speciality of the firm being their well-known portable dark-room fittings; an attractive feature of their stand, however, is the exhibition of specimens by Friese Green's patented process. The method of producing these is practically demonstrated from time to time, and the rough-and-ready way in which they are produced by a lad of whom it can hardly be said, "He is to the manner born," proves the almost absurd simplicity of the process.

The stand occupied by Messrs. Sharp and Hitchmough, of Liverpool, contains a well-assorted stock of requisites both for the professional and amateur photographer. A 15 by 12 enlarging camera, designed by Paul Lange, of Liverpool, is a very useful and well-made instrument, fulfilling all the requirements for which it is intended. They have also on view their "Aptus" hand-camera, and judging by the awards it has received, this has become a very popular instrument amongst that class of workers. A great variety of photographic sundries are also here to be met with and evidently much sought after.

The stand of Messrs. Pearson and Denham, of Leeds, although small, contains some genuine novelties in the shape of cameras, one being a reducing camera for making lantern slides from negatives of a larger size, which was recently noticed in the columns of the AMATEUR PHOTOGRAPHER.

Mr. A. Clarkson exhibits specialities for limelight worked with compressed gases. These are of a very interesting character, and will form the subject of a special notice in an early issue.

PEOPLE'S PALACE PHOT: CLUB.—During April the Club will meet as follows: Good Friday, all-day outing to Dorking. April 11th, apparatus night. April 25th, Mr. Charles W. Hastings on "Photographic Work."

ULSTER AM: PHOT: SOC:—The following are the judges for the forthcoming exhibition: Mr. W. Tomkinson, Vice-President, Liverpool Amateur Photographic Association; Mr. Hugh Reid, ex-President, Glasgow and West of Scotland Amateur Photographic Association; Mr. George Trowbridge, Head Master, Government School of Art, Belfast.

To Correspondents.

THE insertion of **QUERIES** and **ANSWERS** is attended with much labour, and it is requested that the questions asked and the answers given shall be short and to the point. No charge is made.

All communications for the columns are to be addressed to The Editor, "Amateur Photographer," 1, Creed Lane, Ludgate Hill, London, E.C.

RULES

1. Write clearly and distinctly on one side of the paper only.
2. Write each Query or answer on a separate sheet of paper.
3. Write the name and address legibly on the back of each communication, and sign all Queries and Answers with name or *nom de plume*.
4. All matters for these columns **MUST** be received by **TUESDAY MORNING'S POST**.
5. The Editors do not undertake to answer questions by post.
6. In answering Queries correspondents are requested to mention, in every instance, the number and full title of the query referred to.

QUERIES.

3619. **Exeter.**—Can any brother amateur kindly inform me of a dark-room I might use, either on payment or otherwise, in the above city? Also to whom to apply for permission to photograph the interior of the cathedral, and the exterior from the bishop's garden? I start on Saturday, 5th of April, so that an early answer will oblige.—A. F. L.

3620. **Ventilating.**—I have a wooden dark-room 6 ft. by 4 ft. Can anyone tell me how to make or buy a cheap ventilator?—SMOKE.

3621. **Lens.**—Will any amateur tell me if a quarter-plate $\frac{1}{4}$ in. focus lens will take half plate pictures, if used with a half-plate camera? and oblige.—SMOKE.

3622. **R.R. Lens.**—I have a Merveilleux camera, and not being satisfied with the lens, I should like to know if any of your readers could inform me if I can procure a cheap R.R. to fit the flange of the Merveilleux lens, or, if not, how can I fit a R.R. to the camera?—LIONEL THIRKELL.

3623. **Enlarging Lantern.**—Many thanks to those who kindly answered my query of March 14th. May I now put it again the reverse way? If I get a Pamphengos which will only take lantern slides, can I, by making lantern slides of the negatives I want to enlarge, get a good crisp picture, 12 by 10, or a little larger, suitable for forming an enlargement? I already have an arrangement for enlarging by daylight, but it is so uncertain, and such a bother to use, that I want to get a lantern.—R. A. R. BENNETT.

3624. **Yellow Stain with Hydroquinone.**—I am particularly attached to hydroquinone for developing bromide prints, but I find that there is apt to be a slight yellowness in the whites, especially after the developer has been made for some time. How can this be removed?—R. A. R. BENNETT.

3625. **Printing for Amateurs.**—Would some amateur kindly tell me the address of some dealer who prints and tones from amateur negatives at a cheap rate, as, although I see advertisements of dealers, I don't know whom to trust.—POOR CHINEE.

3626. **Quick Printing.**—I want some quick and permanent printing process, and which requires no lengthy toning or developing treatment, as with albumen or bromide paper. Would some amateur advise me, and say where it could be bought?—POOR CHINEE.

3627. **Collodio-Bromide.**—I am using the collodio-bromide emulsion for lantern slides, and the film always floats off in the developer. What is the reason, and how can I make it stick to the glass?—E. B.

3628. **Tone.**—What printing process and toning bath will produce pictures the same colour as "Harmony," in the last *Photographic Quarterly*?—NIGER.

3629. **Clark's Platinum Process.**—Will anyone who has had experience with Mr. Lyonel Clark's platinum toning process, let me know the difference in the cost of working, as compared with ordinary gold chloride toning?—NIGER.

3630. **Iron Precipitate.**—What is the cause of iron precipitating green crystals in developing dish half an hour after mixture with oxalate?—S.

3631. **Aperture of Lens.**—Will some amateur kindly tell me what would be the equivalent aperture, using a half-plate R.R. lens, working $f/8$, of $\frac{1}{4}$ in. focus, on a quarter-plate camera?—QUARTER PLATE.

3632. **Sunk Mounts for Enlargements.**—I want

to mount some enlargements; where can I buy the sunk mounts which I see enlargements are mounted upon. I think they look better than cut mounts. I want them to mount 15 by 12 enlargements. If any brother amateur will give price, I shall be much obliged?—J. J. B.

3633. **Shutter.**—Will any brother amateur help me with the following, and give me his experience. I want to buy a good all-round shutter, and as I can only afford to buy one, I want some advice which is the better—Kershaw's instantaneous, Thornton-Pickard's instantaneous, and time and instantaneous; or is there a better shutter in the market for all-round work? Should I like Thornton-Pickard's time and instantaneous if it is a good shutter.—J. J. B.

3634. **Camera for Victoria Lenses.**—Will any brother amateur tell me the following: I have bought four Victoria lenses on a flange, and am about to make a camera for them; will he be kind enough to inform me how to construct one to take either Victorias or Gems, as I understand they will take either?—S. H. EARNEST.

3635. **Toning.**—Will someone kindly inform me, whether, in using double process of toning with hypo and acetate lead, a fresh hypo bath should be made every time?—F. NOVICE.

3636. **Stanley's Magnesium Enlarging Lamp.**—Will any of your readers give me their opinion of the above from practical experience?—J. F. F.

3637. **Discoloured Prints.**—If anyone has tried the following remedy for old and discoloured sensitised albumenised paper, would he kindly tell me if he has found it succeed, as I have not? One part liquor ammonia to fifty parts water. The prints to be immersed in this bath before and after toning, and also some ammonia to be put in hypo bath.—ALBUMEN.

3638. **Transparent Films.**—Will someone kindly tell me if there are any spools of transparent films in the market which do not require stripping, and which are cheaper in price than celluloid?—E. H. G.

3639. **Focussing.**—Will any reader inform me of a simple arrangement for focussing a hand-camera for the following distances: 5, 10, 20, and 30 feet, using non-achromatic lens, quarter-plate?—DETECTIVE.

3640. **Changing Arrangement.**—Will anyone tell me how to make a simple changing arrangement for quarter hand-camera, no sheaths to be used?—DETECTIVE.

3641. **Non-Achromatic Lens.**—Where can I obtain a cheap non-achromatic lens, suitable for a quarter-plate home-made hand-camera?—DETECTIVE.

3642. **Paper Negatives.**—Can I use Morgan and Kidd's Eastmans, or Ilford ordinary enlarging paper for negative purpose, and what is about the right exposure to give with Lancaster's instantaneous lens? Will I have to use a clearing bath, and will the usual fixing bath do? What developer will I have to use? Will I have to make the negatives transparent to print from? If I have, the best way will oblige.—MAC.

3643. **Bruno's Model Camera.**—If any of your readers have used Bruno's combination camera, "The Model," would they kindly give their experience? I want a hand-camera that will work plates or films.—HUMBLE B.

3644. **Torquay.**—I shall be visiting early next month, and shall be glad to hear if anybody will allow me the use of dark-room for changing plates, etc.; also if plates and necessary chemicals can be procured there.—B. B.

3645. **Spring Carrier.**—Is there a cheap spring carrier made suitable for carrying a small camera on a tricycle or on a safety? The Quadrant Company advertise one, but it is far too dear.—S. H. A.

3646. **Lens.**—What description of lens is best suited for a hand-camera such as Shew's?—S. H. A.

3647. **Toning.**—Will some reader give me a good formula for turning out prints a velvet brown?—W. H. ARMITAGE.

3648. **Oil Paintings.**—Please let me know how the yellow screen is to be used with isochromatic or orthochromatic plates. Also which is the best of these plates, and what developer is most advisable?—W.

3649. **Loan of Double Backs.**—Will some amateur kindly tell me where I can get the loan of two or three double-backs for a "La Meritoire" camera, quarter-plate, for one week. I think the same backs are used for Lancaster's Le Merveilleux, La Meritoire, and Instantograph. I will pay postage and a fee for the loan, and will deposit at the AMATEUR PHOTOGRAPHER office if required.—PERRIE (address with Editors).

3650. **Taylor and Hobson's Lenses.**—Can any of your readers inform me whether I can do better than purchase a set of Taylor and Hobson's R.R., W.A.K., and K.V. casket lenses for general work, and also if there is any disadvantage in using them on a Raymont camera?—PARKMOUNT.

3651. **Eikonogen.**—I fail to get density with this developer, using formula No. 1 by Dr. Andreen, accompanying eikonogen. Can any of your readers give the reason why, and indicate what article in the various formulas published increases density, and what retards it?—IONA.

3652. **Alum.**—Are alum and chrome alum used for the same purpose, viz., hardening the film? If not, I presume when alum is named in any formula

chrome alum should not be used, and *vice versa*.—IONA.

3653. **Tour in Yorkshire.**—As I purpose spending my holidays in Yorkshire some time during the coming summer, and making Masham my headquarters, I should be glad to learn if there are any amateur photographers in the town who are readers of your valuable magazine, and who would be willing to allow a brother amateur the use of his dark-room for the development of plates?—IONA.

3654. **Lens.**—I should like to know if any of your readers could give me an idea of the working value of a lens I have, a rapid doubler by Lightner and Co., Sydney, New South Wales?—W. POLLOCK.

3655. **Tour in Warwickshire.**—Intending to visit Warwick and neighbourhood at Easter, I shall be glad to know where to apply for permission to photograph in the following places: Warwick Castle, Kenilworth Castle, Guy's Cliffe, Holy Trinity Church, and if plates can be bought at Warwick?—J. M.

3657. **Oil Light for Lantern.**—Will someone inform me the way to get the best light in an ordinary oil lantern, i.e., the best way to get the most light?—RALPH DIXON.

3658. **Magnesium Light.**—Wanted at once, information about photographing groups at private theatrics by flash-light.—H. A.

3659. **Detective Camera.**—I wish to convert my quarter-plate camera into a detective or hand camera, to hold, say, twelve plates, without the trouble of dark-slides. Will any reader of an ingenious, mechanical turn of mind kindly help me with a few ideas or a drawing? Are there any cheap magazine backs for twelve plates that could easily be attached to an ordinary camera?—ONYX.

3660. **Hand-Camera, Lens, and Tripod.**—Can any of your readers give me advice as to the choice of a quarter-plate hand-camera, suitable for use with a roll-holder, and that can be fitted to a tripod for time exposures? Is any lens more suitable for such a camera than a R.R. of about 5 ins. focus? Whose lenses are the best for such work? Can anyone recommend from actual experience the Model camera, which was described in the AMATEUR PHOTOGRAPHER some weeks ago? Can anyone recommend a very light tripod for occasional use with hand-camera?—G. W. B.

QUERIES UNANSWERED.

Feb. 21st.—Nos. 3471, 3476, 3478, 4391, 3493, 3404.

28th.—No. 3517.

Mar. 7th.—Nos. 3528, 3530, 3531, 3512, 3551, 3554, 3556.

14th.—Nos. 3561, 3566.

21st.—Nos. 3585, 3587, 3593, 3595, 3593, 3601, 3603, 3610, 3612, 3613, 3614.

ANSWERS.

3575. **Hiring Apparatus.**—Messrs. Sands and Hunter are the only firm I know of who advertise cameras on hire. Their terms are—for goods of value £3-3s. per week, and if the apparatus is purchased within a month, the hire is deducted from price. I quote from their catalogue.—R. W. B.

3574. **Ilford Plates in Paris** can be had from Moleur, 44, Rue du Chateau d'Eau.—J. H.

3577. **Insoluble Gelatine.**
G-latine... .. 1 drm.
Water... .. 4 drms.
Powdered bichromate potash... .. 10 grs.

Soak gelatine in water for a short time, and then dissolve by the aid of heat, lastly adding potash in small quantities at a time.—SUNLIGHT.

3578. **Holiday in South Devon.**—Some few years ago I spent a holiday in South Devon. I made Paignton my headquarters. I cannot speak about the hotels, but lodgings are cheap and good. It is two miles from Torquay, and the following places are easily accessible:—Dartmouth, Totnes, Ashburton, Buckfastleigh, Newton Abbott, Teignmouth, Dawlish, and many others.—G. H.

3578. **Holiday in South Devon.**—If "Hobby" will communicate with me or call upon me, I shall be pleased to give him my experiences of Sidmouth and neighbourhood.—J. W. M. (address with Editor).

3578. **Holiday in South Devon.**—You will find Lynmouth or Lynton a good headquarters, as many lovely excursions can be made from either place; the celebrated Waters Meet is one of the most beautiful spots in South Devon. Ilfracombe, Morthoe, Clovelly, Bideford, and other equally pretty villages are to be found within easy distances. If you stop at Barnstaple you will find the "Fortescue" a very comfortable hotel.—W. A. J. CROKE.

3579. **Removing Stains from Steel Engravings.**—I should advise your taking the prints to a proper man, who will tell you if they can be cleaned without damage.—W. A. J. CROKE.

3580. **Italy.**—The querist might take eikonogen and potassium sulphate in the dry state, and make up his developer *en route*. This is more convenient than taking bottles of liquid, and is capable of the best results. I have found Wratten's plates stand the variations of temperature and quality of water better than any others I have tried, and they are perfect in results with above developer. Instantaneous answers all purposes, but if querist prefers a slow plate for landscape, he can take some of their

ordinary. Both are unsurpassed in quality.—R. W. B.

3580. Italy.—Any concentrated developer. Have you tried Oldham's powder developer? Take the plates you are most accustomed to using. Why not wait until you return before developing them?—W. A. J. CROKE.

3580. Italy.—You could not do better than to use Ilford ordinary plates and the developer the manufacturers recommend. It would be much better if you left your developing until you returned; it is impossible to develop plates properly *en route*.—SUNLIGHT.

3581. Metal Slides.—Tylar's are very good for those who like metal slides and cheap ones, but the great objection to them is their great weight. They can certainly be bought separately, but I fancy you get them cheaper by buying three or so at a time.—W. A. J. CROKE.

3581. Metal Slides.—I use Tylar's slides, and think them first-class. You can only procure them in a set of three as half-plate, price 12s. 6d.—W. H. ARMITAGE.

3581. Metal Slides.—I have used Tylar's metal slides for the last two years, and find them perfectly satisfactory; they are perfectly light-tight, and will not warp. The only disadvantage I can find is that they are rather heavy, but this again is counterbalanced by the fact that six of them take up only as much room as three wooden slides. I don't know whether you can buy them separately, but I dare say Mr. Tylar would oblige you, as he is "the amateur's friend."—HUGH FINN.

3582. Metal Dark-Slides.—I have used them for some months, and can thoroughly recommend them. I will mention one instance to prove their utility. I had charged the slide with two of Thomas's E.R. plates, and by accident I left them in direct sunlight for an hour. When developed, however, they showed not the slightest sign of fog. The only disadvantage they possess is, I think, that they are slightly heavier than wood slides; but that is of very little consequence when we consider the many points in favour of them.—ARGENTI NITRAS.

3582. Metal Dark-Slides.—Lancaster supplies free an adapter for using his metal slides with the Instantograph. They are heavy, and I think Talbot and Bamer's better.—H. F. C.

3582. Metal Dark-Slides.—I presume you mean Tylar's metal slides; if so, I believe Tylar makes special frames to fit Lancaster's cameras. Why not write to Mr. Tylar? He would be only too glad to inform you.—HUGH FINN.

3583. Magnesium Flash-Light.—The smoke is magnesia, and must inevitably be produced by the combustion of magnesium. From my own observation, the combustion in a pneumatic lamp is less perfect than in a spring one, I imagine from the powder in the tube-lamp being driven with greater force, as well as accompanied by cold air. A comparison between a home-made "pistol" lamp, arranged to throw the magnesium in a well-spread condition, with little force, into a large spirit-flame, and a pneumatic lamp with ebullient tube, gave results showing the former to be superior, as there was less unconsumed metal thrown on to a paper placed in front, below the lamp, and the flash was of much greater brilliancy and an important matter—less duration. The smoke of the former was finer, and disappeared sooner.—R. W. B.

3584. Ilford Formula.—Dissolve 4 ozs. pure sodium sulphite in 6 ozs. water (warm), add 20 grs. citric acid, and pour over 1 oz. of pyrogallol acid, make up to 10 ozs. with water; label, pyro 10 per cent. Ammonium bromide 1 oz., water to 10 ozs.; label, ammonium bromide 10 per cent. Liquor ammonia ('880) 1 oz., water to 10 ozs.; label, ammonia 10 per cent. For use: pyro, 1 drim.; bromide, 30 minims. Commence with ammonia, 15 minims; and gradually add more as required. The above is the best developer I know of.—ARGENTI NITRAS.

3584. Ilford Formula in 10 per cent. solutions. I copy from *Photographic Scraps* for last October:—

Pyro	...	...	...	1 oz.
Water	...	...	...	to 10 ozs.
Add 20 drops nitric acid.				

Brom. amm.	...	...	...	1 oz.
Water	...	...	...	to 10 ozs.

Ammonia '880	...	...	...	1 oz.
Water	...	...	...	to 10 ozs.

To develop half-plate, take P, 37 minims; B, 50 minims; A, 90 minims, and add water to make 2 ozs.—J. H.

3586. Wide-Angle Lens.—I have had the use of a W.A. lens by Wray, and consider it a splendid instrument, and would certainly advise "J. J. B." to purchase one.—P. K.

3586. Wide-Angle Lens.—There is not much to choose between an Optimus or Wray's lens; they are both thoroughly reliable articles, and well worth the money. As you have an Optimus, why not stick to the make, and get a W.A. lens of the same make?—HUGH FINN.

3588. Aristotype.—Mr. Hethon Lewis, in *AMATEUR PHOTOGRAPHER*, January 24th, 1890, page 54, gives complete directions for this.—F. DAVIS.

3588. Aristotype.—Prints on this paper can be

mounted with Thomas' india-rubbersolution without losing any of the gloss.—SUNLIGHT.

3588. Aristotype.—I have succeeded in mounting prints without losing gloss by using Hinton's "Aristo Paste." Another method is to paste thin card to print, when in contact with glass, and before it is quite dry. After stripping, the print may be mounted in the usual way.—W. A. S.

3589. Gaslight.—Interiors can be taken by gaslight, and copying can also be done—see an article in the "British Journal Almanac," 1890. But portraits are out of the question, the exposure being necessarily very prolonged. Magnesium wire burnt gives a manageable exposure.—C. J. E.

3589. Gaslight.—Yes, with a few hours' exposure.—P. K.

3589. Gaslight.—Photographs can be taken in gaslight on ordinary plates, with from three to five minutes' exposure, but if isochromatic plates are used, one-eighth of this exposure will do.—SUNLIGHT.

3590. Sensitised Paper.—The sensitised paper may become yellow in the toning bath, if it has come in contact with ammonia. If you mean that the paper turns yellow after the prints are finished, then the cause is insufficient fixing and washing.—HAMISH.

3590. Sensitised Paper.—This is a result of too great a quantity of gold in your toning bath.—W. A. J. CROKE.

3590. Sensitised Paper.—I can hardly understand your query. I presume that you mean that the prints turn yellow when put into the fixing bath; if so, it is a sign that the fixing bath is acid, and sulphur toning ensues. You must make the bath alkaline, and be careful not to over-tons.—SUNLIGHT.

3591. Chloride of Gold.—Unless you are a professional in a large way of business, it would be absurd to attempt such a thing. However, I will describe the process. Add solution of ferrous-sulphate, and a black precipitate results. This may be dissolved in aqua regia, and the gold in resulting solution reprecipitated by ferrous-sulphate, when it may be re-dissolved in aqua regia to form the chloride.—SUNLIGHT.

3591. Chloride of Gold.—You can recover gold from old toning baths by precipitating it with a solution of ferrous sulphate.—HAMISH.

3591. Chloride of Gold.—This can be done, but is generally not worth while, unless you have very large quantities of old solutions.—W. A. J. CROKE.

3592. St. Heliers, Jersey.—Mr. De Faye, Photographic Chemist, David Place, St. Heliers, gives gratis the use of his dark-room. He supplies all makes of plates, and necessary chemicals.—J. LAURENS.

3594. Dark-Room.—Buy "Burton's Handbook of Modern Photography," cost 1s.; pages 19 to 23 will help you. My own dark-room cost me only £1, it will hold two very comfortably.—ORGANIST.

3594. Dark-Room.—No. 50 of the penny weekly, *Work*, dated 1st inst., will give you some useful information for fitting up dark-room.—SUNLIGHT.

3597. Hand-Camera.—Eastman's Kodak, to be obtained from the Eastman Company, 115, Oxford Street, W.—W. A. J. CROKE.

3597. Hand-Camera.—If "Mervi" prefers a roll-holder for films separate from the camera entirely, Shew's eclipse hand-camera would probably suit. If, on the other hand, a very compact apparatus is preferred, combining the roll-holder and camera, Robinson's (Regent Street) "Luzo" would probably suit well.—O. WOLLASTON.

3597. Hand Camera.—The Kodak, manufactured by the Eastman Company, Oxford Street, W.—SUNLIGHT.

3598. Photography in Germany.—No difficulty in getting plates, etc., for tourists' own use in this country. Pictures can be taken freely, except in neighbourhood of fortifications. Ilford plates can be had from S. Federlein, Louise Strasse No. 2, Hanover, and his sub-agents.—J. H.

3599. Book on Lenses.—The only book treating exclusively on lenses that I know of is one by Dallmeyer, and is titled "Dallmeyer on the Choice and Use of Photographic Lenses." The price is 1s.—HAMISH.

3599. Book on Lenses.—Write to Taylor, Taylor, and Hobson for their list, and you will get the particulars you require. Their lenses are good.—H. F. C.

3599. Book on Lenses.—Book by Dallmeyer "On the Choice and Use of Photographic Lenses," price 1s.; also Burton's "Book on Photography," pages 34 to 42.—ORGANIST.

3600. Lantern Slides.—Ordinary dry plates are not suitable for your special purpose, but you will find the "Mawson Photo-Mechanical Plate" all that you require. If you follow their directions as to developer, etc., you will not go wrong. As to lantern plates, for cold grey tones use Mawson and Swan's, or Fry's; for warm ones, the Alpha plates. The hydroquinone developer I find best for the lantern plates. There will be no difficulty about contrast. Shall be pleased to write further if you like.—C. J. E.

3602. Potassium Chloro-Platinite.—If you wish to prepare this, I would advise you to purchase Mr. Lyonel Clark's book on "Platinum Toning," on page 87 of which he gives the mode of preparation. This book can be had of the Publishers of the *AMATEUR PHOTOGRAPHER*.—HAMISH.

3603. Shutter.—Veyers, of Leeds, supplies a drop shutter which, I think, would suit you.—P. K.

3603. Shutter.—If you don't care about time exposures, get a Kershaw. If you want time exposures as well as instantaneous, get a Thornton-Pickard. Both work admirably, and are cheap.—R. A. R. BENNETT.

3603. Shutter.—For a between-lens shutter (undoubtedly the best form) Newman's is admirable, and my 7½ by 5 one works up to the advertised 1/100, as proved by experiment. It is at its best when used with an Iris diaphragm. For a shutter on hood of lens, the Kershaw or Thornton-Pickard would suit "Finisterre." The latter has, like the Newman, the advantage of a time arrangement.—R. W. B.

3603. Shutter.—If "Finisterre" will please communicate with me, I will be pleased to recommend to him (and furnish him with full particulars) a good shutter for general work, at a very moderate price.—HAMISH (address with Editor).

3603. Shutter.—Newman's, if you can afford it; if not, the Norden flap shutter, made by Tylar.—SUNLIGHT.

3605. Light Camera.—Lancaster's 1890 Special patent camera would answer your purpose.—SUNLIGHT.

3605. Light Camera.—If you care to write me, I will help you if I can (address with Editor).—W. A. J. CROKE.

3606. Intensifier.—The reason is that you have not washed them thoroughly, and there is some trace of hypo remaining.—ARGENTI NITRAS.

3607. Blacking for Stops.—Mix 2 drms. pure nitric acid with equal quantity of water, and put a piece of clean copper into it till it gives off no bubbles. Clean the stop, and heat it well in a spirit lamp. Plunge it into the solution, then heat it in the lamp till it turns black.—H. F. C.

3607. Blacking for Stops.—Heat the stops slightly over the fire, then dip them into pure commercial nitric acid quickly, then again heat over the fire till they have become black; after this rub them with a brush, and polish them with a piece of greasy wash-leather. You must not let them touch the coals whilst heating.—R. E. S.

3607. Blacking for Stops.—Make stops fairly hot, and dip them into a solution of copper nitrate, and then heat them over a Bunsen burner or spirit lamp until they assume a black colour.—SUNLIGHT.

3607. Blacking for Stops.—Make strong solution silver nitrate, also strong solution nitrate of copper; mix both solutions, and dip stops into same for a few seconds. Take them out, and heat until the dead black is obtained.—ORGANIST.

3607. Blacking for Stops.—I have found the best results to be obtained by a bath of nitric acid 4 drms., water 2 ozs., with a few strips of copper, about ½ oz. or less, dissolved in it before use. There should be some free acid. The brass stops should be well cleaned, and dipped in weak acid, about 1 to 30, to remove all grease, then dipped into the nitrate of copper bath, and warmed gently on removal (avoiding making the film of liquid on the brass ball) till dry, then heated red-hot or nearly so. They are finished by brushing with dry blacklead. Some samples of sheet-brass turn spotty, but the only remedy is to try another piece that doesn't, as far as I know. The results are not equal to, say, a Ross lens in finish, but there is said to be a trade secret about the method employed by the best opticians, and the above recipe is the best I have tried, as well as the simplest.—R. B. W.

3609. Halation.—You must back the plates with burnt sienna and gum, mixed thick, with a few drops of glycerine added. Wash it well off before developing. Or you can use films, but it is rather doubtful if they really do prevent the evil. Or you can block out the window with sacking, which, however, would be rather a job, and not look particularly ornamental.—R. A. R. BENNETT.

3609. Halation.—Use Edwards' isochromatic plates, and paste (or glycerine) on to back of same, in optical contact, a piece of black or brown paper—to be removed when developed—you will then have no halation whatever.—F. DAVIS.

3609. Halation.—Back your plates in the ordinary way with sepia or any other formula.—W. A. J. CROKE.

3611. Toning Silver Prints.—If the prints are mealy, the fault is in the sensitising. As mealliness shows itself after printing, it is only waste of time to tone the prints, as the results are not pleasing. If "A Crowe Quill" will forward me a print, I will endeavour to assist him. Use powdered soda in first washing, instead of crystals.—HAMISH (address with Editor).

3611. Toning Silver Prints.—Why not try the borax formula? It is much simpler than the acetate, and gives better results. You will find the following a simple and effective stock solution:—Borax 1 oz., dissolved in 10 ozs. of hot water; make up to 2 qts. with cold; take 8 ozs. of this solution to 1 grm. of gold, which will be sufficient to tone one sheet of paper. This solution should be used just warm.—W. A. J. CROKE.

3615. Bromide Paper.—"X. Y. Z." cannot do better than read Mr. H. H. Roden's article on page 416 of "The British Journal of Photography Almanac," 1890, as a remedy for yellow stains caused by hydroquinone development.—W. E. REYNOLDS.

3616. Micro-photography.—There is no rule to

give "Luder" on the chemical and visual foci of microscopical lenses, as it must be found out by experiment. Objectives made by Swift are, however, corrected for photography, and I believe he is willing to add a correcting lens for the purpose to any objective for 10s. His address is Tottenham Court Road, London. High powers are not supposed generally to want correction; if low powers give an indistinct image, "Luder" might try the experiment of reducing the focus by one-thirtieth, as is often used in uncorrected lenses. There is a good deal about photo-micrography in Davis's "Practical Microscopy," and there is also a book on the subject by Jennings, I think. I have not my books here, but these could be got through a scientific bookseller.—J. G. P. VEREKER.

3618. Amateur Starting.—I should advise you not to get whole-plate, but half-plate camera. Underwood (Exhibition) 1889 is a splendid instrument. Also I should get an Optimus Euryscope lens. Send for catalogue (four stamps) to Underwood, Brunswick Works, 130-132, Granville Street, Birmingham. The lens you will get at Perken, Son, and Rayment, a very fine lens.—ORGANIST.

3618. Amateur Starting.—It is usual for an amateur when commencing photography to use either a quarter or half plate camera, but if the cost is of no consequence I should certainly advise "Chemist" to purchase a whole-plate camera. I use a half-plate camera, which is of splendid workmanship and makes many a brother amateur envious. If "Chemist" will write to me, I will be pleased to tell him where to get a first-rate camera, etc., and all particulars.—HAMISH (address with Editor).

3618. Amateur Starting.—I should certainly advise "Chemist" to get a good long-focus whole-plate camera at starting. The camera ought to have rising front, reversing back, and swing-back, also some arrangement for side swing, and had better be arranged for advancing the back for short focus lenses. Ross's cameras, Beck's Peccops, the Optimus wide-angle, and many others are of the type I mean; and see that it is made for hard wear, and of close-grained, well-seasoned mahogany. A cross motion to front is sometimes useful, but not often used. A camera of this sort can be used with any focus lens from quarter-plate upwards, to a certain limit, about 22 ins. focus. Inner frames for carrying smaller plates can easily be adapted. He ought to get for his purpose an Euryscope form of lens, working about f/5; this will probably be fast enough for the portraits he may require. Large portrait lenses are rather heavy for the light fronts these long-focus portable cameras require; unless he requires a camera for portrait work chiefly, in which case a camera focussing by the back will probably suit him better. The lenses ought to be got from a recognised maker. The whole-plate lens will not put on the quarter or half plate as much as on a whole-plate, but I presume he wants the quarter-plate for experiments, and the lens will answer for portraits on the half-plate. If this does not quite suit "Chemist's" requirements, it is easy to use a half or quarter plate lens with the camera I have mentioned. For prices of cameras and lenses I refer him to the dealers' catalogues, or one of the photographic almanac's advertisements.—J. G. P. VEREKER.

3618. Amateur Starting.—I would advise "Chemist" to purchase Lancaster's Instantograph (half-plate) minus the lens. The latter should be purchased from a first-class maker, such as Wray. I should also advise him to use the ammonia-pyro developer and borax toning bath.—P. K.

3618. Amateur Starting.—I should not advise you to buy a large and expensive camera to start with. A cheap second-hand half-plate camera would answer much better, but by all means get a good lens of the rapid rectilinear pattern. There is no best makes of cameras and lenses; all the leading manufacturers try their best to turn out good apparatus, and I think they succeed very well.—SUNLIGHT.

3618. Amateur Starting.—I should certainly advise you to buy a half-plate camera, and have carriers for quarter-plate; this will save expense, as you will waste a number of plates at starting. Any good maker will supply you with a reliable camera, e.g., Watson and Sons, High Holborn; Atkinson, Liverpool, etc. See that the camera has a swing-back and, for convenience sake, a reversing back. Some advocate a rising and falling front, but personally I have not found much use in it. Get an R.R. lens; it will do all you wish. Get, if possible, an Iris diaphragm, as it is handier than the loose stops. For seascapes you will want a shutter; there are great numbers of them in the market, but I should advise the Thornton-Pickard. As you are a beginner, do not be too ambitious at first. Get advice from some friend who knows. Use your brains, and read intelligently.—HUGH FINN.

EDITORIAL.

NOTE.—Anyone requiring an opinion upon photographic apparatus, plates, etc., must give a number or initial for identification, as in no case will makers' names be inserted in this column.

SPECIAL NOTICE.—We are very pleased to find that replies in this column are so much appreciated, but we should be very grateful if those requiring advice would send their letters to us BEFORE TUES-

DAY MORNING's post if possible. The time occupied in replying in this column is very considerable, and owing to the often late receipt of letters, many matters have to be left over each week. This we much regret.—ED : AM : PHOT :

A. T. LEMARCHAND.—Write to the Rev. J. Sparshott, Hon. Secretary of the newly-formed Photographic Society of Exeter.

G. K.—Undoubtedly the principle is patented, and you cannot, therefore, make one for your own use. The lantern slides are still at the Crystal Palace, and we shall not probably have them back till Monday.

J. R. MARTIN.—We cannot advise you, but in a week or so we shall report upon several hand-cameras. You mention two, and we have no hesitation in saying the first is by far the best. Read our rule at the head of this column; it is one we rigidly adhere to.

R. W. BUTTERMER.—Name the books, and our publishers will write you as to price. Do you wish us to mark a list? We shall endeavour to give even better results in future "extras." We should advise B; it is exceedingly portable, and well made. We never had much opinion of D; the plate was far too small. The lenses you mention are very good. Not much practised; should think they would be too slow, but do not like to venture an opinion without trying them.

W. A. SOUTHALL.—Your suggestion shall be kept in view. We are much obliged to you for it and your very kind remarks.

J. H. T. G.—Very pleased if you will call; we can then perhaps find you something for your boys' club. You cannot do better than Z.

BOYD MOSS.—We will send your letter, but first will make inquiry about the book.

J. W. HORTON.—The entry form, etc., shall be sent on. Obtain "Photo-Micrography," by A. Cowley Malley (Lewis). Will make inquiry about the City and Guilds of London.

J. BELLITT, JUN.—The titles are so in error; it should be, study H. P. Robinson's books, and master lighting and exposure. A list which includes Mr. Robinson's books can be had of our publishers. We always endeavour to be fair, just, and honest to everyone.

FLEX.—We are very sorry that the advertisement was inserted. It shall not occur again. It is almost impossible to be up to the man.

H. J. CUNNINGTON.—Should advise B.

MRS. IBBETSON.—We shall be very pleased for your daughters to compete as you suggest.

W. H. SHIRLEY.—In the words of a well-known actor, "The time will come."

JAMES FINDLAY.—You can put up No. 1 on a tripod, it is far more handy than No. 2. The cameras by the other firm are not such as to induce us to recommend you to wait for them. No. 1 beyond 10 ft. Edinburgh, don't know. Really we cannot spare time to write you, and it is against our rule.

R. A. E. BENNETT.—We believe the Exhibition closes on Saturday. Not more than they deserved, many of them.

INEXPERIENCE.—Not worth twopenny. You cannot get a hand-camera to be of any service under £3 3s. to £26 6s.

REV. A. JOHNSON.—Certainly should advise first either III, or IV., the latter perhaps, and afterwards V., which is handy and unobtrusive.

MR. JONES.—Write to the Rev. F. C. Lambert, Cambridge. Look up the AMATEUR PHOTOGRAPHER for June 1st, 8th, 15th, 1888, answer 692.

CORRIN.—No. 1 is a very compact little hand-camera, and better suited than No. 2, which is a very excellent instrument. These are the two best, and are both thoroughly well made. We believe No. 4 is a good apparatus, but have not had an opportunity of thoroughly examining it.

J. S. H.—Only a toy, and useless for any purpose.

PENDENNIS.—(1 and 2) A cheap quarter-plate set. (3) A is a very fair camera; have never seen B. (4) Certainly. A to commence with. (5) Start with and stick to B. (6) They are recommended by the maker. (7) We prefer wood. (8) Never heard of slides with that name made by the firm you mention.

LEGIS.—No. 1 is a well-made instrument, No. 2 we do not care for. No. 3 is an excellent hand-camera, and would probably best suit your requirements. No. 4 is well made and very compact, but dark slides are required. No. 5 is not in the market. No. 6 is a very handy and compact detective camera, quite reliable. No. 7 has many good points, but we have only had an opportunity of examining the first that was made. You can safely buy the lens you mention.

A. W. GOTTLEB.—We retained the services of a gentleman in every way qualified to criticise the exhibits at the Crystal Palace, and we are quite certain that he would not have called your picture "inartistic" had it not fully merited that censure, and although it may be a fact that "foxes are shot by keepers every week, at some seasons of the year, and the keepers rewarded for so doing," such fact does not render their action less "of an unsportsmanlike act."

YARMITE.—No. 1: We like glass, but excellent negatives have been taken on "strippers," and we have seen some very creditable ones on the new rollable film. No. 2 camera is very serviceable and handy.

THOS. HOLMES.—Have never before heard of the

camera; but will send to the agent, and report next week.

H. STAVELEY.—Perhaps you would call and show us the tent. Tuesday or Thursday.

W. MCPHAIL.—Your letter is published, also one from Mr. J. Crighton upon the subject.

BOYD MOSS.—Thank you very much; we have sent on your letter to the Rev. E. Pope.

DIAPHRAGM.—(1) A first-class lens should cover the plate, and give good definition all over. (2) Work at f/6 or f/8.

A. BROAD.—All photographs for the "Monthly Competitions" have to be sent in, on, or by, the 14th of each month. One print only.

TURNBULL.—If you send us your camera, we shall be pleased to notice it. All apparatus sent us is returned in fourteen days.

E. R. HOWARD.—For "Photographic Haunts in and Around London," see back numbers of the AMATEUR PHOTOGRAPHER.

SUMMERVILLE.—Write the Rev. F. C. Lambert, Cambridge, he is enthusiastic about such work; or Mr. R. A. E. Bennett, Union, Oxford.

OPTIMUS.—See Wall's "Dictionary of Photography," page 47. Divide the focal length of the lens by the diameter of the diaphragm.

FINDUS.—You will find D, A, and C, good lenses, we place them in their order.

W. ARMITAGE.—Use the R.R. lens without removing back or front.

TEGES.—Daguerreotype, we know of no means. Photography is permitted in the parks, but only by amateurs; and the officials, we presume, decide whether the operator is causing an obstruction. Thank you for your good opinion, we will do our best to continue to deserve it.

T. C. C.—We should certainly give the preference to B. We give no firm's names in this column, and we only advise upon the selection made by our correspondent.

EGDOL.—If a hand-camera is required, we place 4 first and then 8. If a detective camera certainly 2, with B lens.

EDWARD JURY.—The prints will shortly be under criticism for our next "Special Number," shall we retain them? please let us know.

JAMES BLACK.—See preceding reply, cannot fix a date just at present.

JOHN G. WATSON.—Yours is very fair work, and we find no glaring fault in any of them. In No. 3 you might have studied the lighting a little, but we have often seen worse work. Your lens gives good definition, and we shall be pleased to see your work again at the end of the season.

J. C. M. O.—We prefer No. 1, very handy, next No. 4, which is more complicated.

GAVIN T. MCCOLL.—Not one of the lenses named, except perhaps B, likely to answer your purpose. D, should not think it at all likely.

H. A. FARDELL.—You cannot do better than follow the instructions given in the article named. Be careful to have the light well diffused, i.e., filtered through either ground glass or tissue paper. Your query is also inserted.

J. F. FITNESS.—We believe A to have many good points, but the makers tell us they are so busy that they cannot send us one for inspection, therefore, upon that one we are unable to advise. B is rather complicated. C is very handy, and really an excellent apparatus. D we do not care for.

COUNTRY AMATEUR.—"Photography for All" (Harrison), "Modern Dry Plate Photography" (Burton), "Experimental Photography" (Leaper).

W. E. GALLOWAY.—All the slides are still at the Palace, so it is at the moment impossible for us to criticise even yours. It is always of use going on with anything until you have succeeded in doing work as good as the best. We thank you for the present, remember they are not for ourselves, but in trust for those interested in photography. This winter we have had nearly 2,000 in circulation. You will hear more about yours later on.

E. E. BOWDEN.—No. 4 first, and then No. 1, both quarter-plates; you can buy No. 4 with lens at your price.

LIGHT BLUE.—The 1 lens is a beautiful and accurate instrument, it cannot be surpassed, and if you do not mind price we should strongly advise you to buy. You might pick one up in our Sale and Exchange columns second-hand.

STANIS.—You have evidently allowed light to get through to the plate. Send up the negative.

LOLA.—The R.R. lens recommended by the maker. The limit of prints for the "Ladies' Competition" is twelve prints, and may be selected from any of the subjects named. The cheap apparatus made by the firm you mention will answer all your requirements. Thanks for the prints, we are wanting some for our household albums.

H. H. G.—We shall be pleased to help you if possible, and would suggest that an application of very dilute shellac varnish to the leaves might be an easy means of guarding against the trouble you fear. Certainly send prints, but as we are kind, be merciful and don't send a lot. Can't say much for the print you enclose, your foreground is out of focus; show us some later work.

S. H. A.—The following order, 1, 6, 2.

GRESHAM.—Really we cannot compliment you upon one of the photographs sent us. You do not take care to focus truthfully—the pictures all lack definition. In every one there is unmistakably flare

spot, probably due to reflection, and not from any fault in the lens. You appear to quite understand what you are doing, but the results are distinctly unsatisfactory.

R. B.—We think you will be quite pleased with the B shutter.

PIRRIE.—There is the same depth as in ordinary dark slides. Photographers should refuse to have plates of varying thicknesses, and directly such are discovered in the dark-room they should be carefully repacked and returned to the makers, who would soon find a means to buy glass of uniform thickness.

VITRUM.—Try a neutral tint. If cut, fill with opaque liquid as you suggest.

J. O. B.—Your No. 2 is most charming, and speaks well for the work done with your hand-camera. You do not say what lens you are using. We shall certainly retain the prints. We cannot fix a date, but shall start on the work directly after Easter.

HYPATHIA.—"Hardcastle Crags," we suppose you have a thin negative. Your print would be much improved if printed in a dull light, or you may filter the light through tissue paper. You have no detail in the shadows at all. "Castle Carr" is a better print. Your "interiors" are not good in St. Edward's; you would have got a much better picture had you backed the plate, and so prevented halation. You give no particulars as to exposure, stop, etc.

Sale and Exchange.

RULES.—Fourpence for twelve words or less, and a penny for every additional three words, must be enclosed with each advertisement, together with the name and address of the sender, which must be paid for, and sent to Hazell, Watson, and Viney, Ltd., 1, Creed Lane, Ludgate Hill. Halfpenny stamps preferred. A single figure, or group of figures undivided by letter, space, stop, or words, counts as one word; compound words count as two words.

REPORTING UPON APPARATUS.—The Editor of the AMATEUR PHOTOGRAPHER will be pleased to report, to any intending purchaser, upon apparatus etc., offered for sale in the "Sale and Exchange" column, provided such apparatus, etc., is forwarded by the seller to him to the offices of the AMATEUR PHOTOGRAPHER, 1, CREED LANE, LUDGATE HILL, LONDON, E.C., free of charge. The intending buyer to pay a fee equivalent to a commission of 2½ per cent. upon the sale price of the apparatus, etc. The publishers will undertake the packing and sending of all goods at the cost of the seller. As far as possible, the Editor will undertake to send a report within two days of receipt of goods.

DEPOSITS.

Deposits for goods to be forwarded on approval may be made with our Publishers, who will hold the amounts deposited until they are satisfied that the transaction has been executed to the satisfaction of both parties. Cheques and Post Office Orders should be made payable to Hazell, Watson, and Viney, Ltd. A nominal charge of 1s. is made whether a sale is effected or not.

N.B.—Trade Advertisements cannot, under any circumstances, be inserted in this column. Such advertisements can be inserted elsewhere at the Trade Scale, which may be obtained on application to Parry and Crawford, 1, Creed Lane, Ludgate Hill London, E.C.

Apparatus.—For sale, quarter-plate Instantograph, with lens, shutter, tripod, four double dark-slides, and case, 35s.; also a splendid Optimus R.R. lens, 5 by 4, with stops, cost 34s., take 25s.; a bargain.—Address, T. L., 11, Eton Villas, Crown Hill, Harlesden, N.W.

Bicycle.—Exceptional bargain. Buckingham and Adams' light safety bicycle, fitted with bell, tool-bag, etc., balls all over, hollow rims, splendid luggage carrier, made specially for half-plate camera, just the thing for an amateur photographer; cost £18 10s.; price only £9.—B., 2, Oak Villas, Friern Park, North Finchley, N.

Burnisher, Lens, etc.—Useful 9 in. burnisher, as new, 9s.; excellent c.d.v. lens, 15s.; splendid cabinet for microscopical objects, with slides, 15s. — Jones, Enfield House, Uffculme, Devon.

Camera.—Lancaster's quarter-plate Instantograph, complete, canvas bag, perfect condition; 30s. — Graham, Barnoch, Harrow.

Cameras, etc.—Rouch's patent camera, half-plate, three double dark-slides, and canvas case to contain the lot, camera has double swing and reversing back, perfect condition; price 70s. lowest.—Sydney Miller, 23, Highbury Grove, Islington, London.

Lancaster's quarter-plate special camera, with one double back, and changing box and back for twelve plates, and landscape lens, £2; Rouch's dark-tent, with tripod, new condition, £3; Beck's 5 by 4 R.R. lens, with Iris diaphragms, £2 12s. 6d.—Dollery, 57, Charing Cross, S.W.

3½ by 3¼ bellows camera, swing-back, folding tail-board, lens, slide, changing box for 12 plates, lantern size, new, 30s.; also Jefferies' half-plate print washer, 7s. 6d.; no approval. — James Taylor, 7, Gowan Street, Arbroath, N.B.

Camera, quarter-plate, swing-back, rack focus, six Blair's feather-weight slides, canvas case, new, compact, light; 45s.—8, Midland Road, Gloucester.

Camera, Hand-Camera, etc.—Half-plate McKellen camera, two double slides, three-fold tripod, price £7 10s.; 3B Suter lens, price £2 15s., condition almost new; Facile hand-camera, cost £3 13s. 6d., price £2 18s. 6d. — 6, Montford Place, Kennington Green.

Camera, Lens.—Small pocket camera (by Wratten and Wainwright) and Dallmeyer lens, for pictures 2 by 2½, good as new; cost £9; offers wanted.—Glazebrook, Malling, Liverpool.

Camera, Lens, etc.—Square whole-plate camera, leather bellows, square, short focus, reversible swing-back, 9 by 7 Optimus R.R. lens, three double dark-slides, 1 dozen plates, £8 10s.; 124 numbers AMATEUR PHOTOGRAPHER, 36 numbers Philadelphia or Wilson's "Photographer" (no pictures), 11 numbers "Camera" of 1883; 30s.; or exchange large Kodak.—Camera, 95, Hill Street, Lurgan, Ireland.

Half leather bellows camera, all movements, and rapid Rectigraph lens; 70s.; lens cost £3.—Pollock, Telegraphs, Belfast.

Le Merveilleux quarter camera, rectilinear lens, etc.; particulars on application. — Fisher, 31, Womersley Road, Hornsey.

Good mahogany quarter camera and lens, takes pictures 10 by 8; £5; or what offers? — Edward Wood, 215, Abbey Hey Lane, Gorton, Manchester.

Camera, Slides, and Case.—Lancaster's half-plate special patent camera, latest improvements, three slides, perfect condition, also case for same; £4 5s. 6d.—Preston, Heath Cottages, Hebdon Bridge.

Dark-Slide and Photometer.—Single dark-slide, 10 by 8, 10s.; Decoudun's photometer, 5s. — Frew, University College, Dundee.

Enlarging Lamp.—Stanley's magnesium enlarging lamp, unused; low price; or exchange for 5 by 4 or quarter R.R. lens.—T. B., 8, Cologne Road, New Wandsworth.

Hand-Cameras.—McKellen's quarter-plate detective camera, patent 7432 and 2382, as sold by Marion and Co., fitted with Taylor's detective R.R. 6 in. focus lens, Iris diaphragms, cheap; £6.—D. R., 23, Ramsay Villas, Ramsay Road, Forest Gate, E.

What offers for Diamond hand-camera, nearly new?—Atkinson, Cumberland Road, Leeds.

Fallowfield's Facile camera, rectilinear lens, finder; cost £5 5s.; take £4; good as new.—Whiteside, St. Nicholas, Cardiff.

Lantern.—Magic lantern, 4 in. condensers, lighting slide holder; 25s.; quite new.—Smith, Junior, 76, High Street, Wavertree, Liverpool.

Lanterns, etc.—Exhibitors' biennial lantern, mahogany body, all brass fronts, with jets, tubing, lamp, case, new, and all complete; price £12.—Sparham Camp, Distillery Street, Norwich.

Hughes' patent Triplexicon three-wick lantern, 3½ in. condensers, in case, with Aphengoscope, and over 100 slides, English cathedrals, comic nursery tales, hymns, etc.; what offers cash?—W. Rushton, 71, Deardengate, Haslingden, Lancashire.

Lenses.—Optimus half-plate R.R. lens for sale; 40s., as new.—Middleton, 2 and 3, Aldgate.

Half-plate landscape lens, nearly new; 15s. — L. Lawton, Bank Top, Morley, near Leeds.

Ross' rapid symmetrical whole-plate lens, 90s.; Dallmeyer's No. 1 patent landscape ditto, 55s.; both new condition. Wanted, Ross' portable symmetrical 7 in. focus; also whole-plate landscape Dallmeyer or Wray, good condition.—Brownrigg, Ballymena, Ireland.

Whole-plate Instantograph lens, complete, 1883 pattern; 25s.; a bargain. — Benwell, 3, Headstone Terrace, Harrow.

Optimus 7 by 5 wide-angle portable symmetrical lens; cost 52s. 6d.; take 39s. 6d.—Hawkins, Waverley Estate, Farnham.

Rapid rectilinear lens (by Suter), 3B, covers whole-plate; 60s.—Summers, jun., 28, Cheapside, London.

Lenses, Taylor's 100s. whole-plate, mid-angle rectilinear, 7 in. focus, 65s.; Ross' 3 in. portable symmetrical, 35s., perfect.—8, Midland Road, Gloucester.

Optimus 12 by 10 R.R. lens, covers 15 by 12 plate, perfect, as new; £5 10s.—W. Charles, Duns, N.B.

Pair symmetrical stereoscopic lenses (by Trench), equal to new; cost £6 6s.; price £2 10s.—Pierston, 27, Dudley Road, Tunbridge Wells.

Lenses, Optimus rapid rectilinear, 7 by 5, nearly new; 35s. — H. C. A., AMATEUR PHOTOGRAPHER Office.

Lenses, etc.—Lancaster's quarter Merveilleux lens, stand, two slides, 18s. 6d. — F. Bean, Snaith, Yorkshire.

5 by 4 portrait lens, half-plate rapid rectilinear, large 5-cell battery, lamps, and bells; exchange for thoroughly good whole-plate camera, or sell separate.

—Rector, Trusthorpe, Alford, Lincs.

Lens, Camera, etc.—Dallmeyer's triple achromatic lens, whole-plate, 12 in. focus, £3 10s.; Marion's 1½ in. camera, 18s.—Verd, Mossigg, Cathcart, Glasgow.

Lens and Shutter.—Ross' actinic doublet lens, 8 by 4½, 55s.; sky-shade and shutter. — Arthur, 87, Augustine's Road, N.W.

Negatives.—Negatives, 50 quarter-plate, Indian views; 20s. lot; suitable for lantern slides.—Sparham Camp, Distillery Street, Norwich.

Sets.—Quarter-plate camera, with three backs, Wray lens with Iris diaphragm, folding mahogany tripod, Newman's shutter and finder, in leather case, complete; cost £10 15s.; take £6.—To be seen at 418, Strand.

Shew's box hand-camera, with Eclipse lens, finder, changing back for 12 quarter-plates, finder, and Watson's cyclist's tripod, only used once; cost £7 10s.; price £5 10s.—Camera, 31, Glenarm Road, N.E.

Lancaster's Instantograph 1889, half-plate, all improvements, leather bellows, reversing back, long-focus lens for views, portraits, architecture, fine definition, shutter, dark-slide, mahogany folding tripod, new, perfect condition, not used; lot £3 15s.

—Acratopulo, Clarendon Road, Eccles, Manchester.

Half-plate mahogany camera, bellows body, horizontal and rising front, swing-back, R.R. lens, three Tylar's metal slides, tripod; price £5; worth £3; exchange good safety.—Kennedy, 4, Lower Archer Street, West Hartlepool.

Second-hand, 8½ by 6½ Meagher's camera, parallel bellows, 3 double slides, and 1 single Ross' rapid rectilinear lens, sliding-leg tripod, all in good condition; price £12 12s.—Apply, W. Simpson, 4, Blenheim Terrace, Leeds.

International quarter plate camera, splendid landscape lens, three double backs, tripod, drop-shutter, first-class condition; bargain, 35s.—Reginald Bennett, 5, Nassington Road, Hampstead.

Will exchange half-plate camera, two double backs, rapid rectilinear lens, instantaneous shutter, good tripod, new condition, value £3 10s., for good make quarter set, with rapid rectilinear lens, slides, stand, etc., and cash to value, or sell cheap.—A. Hurdle, 4, Park Villas, Albion Road, Stoke Newington, N.

Good half-plate camera, Instantograph lens, shutter, three slides, and tripod, in capital condition; 75s.—Hy, Thompson, Grosvenor Terrace, Harrogate.

Half-plate Lancaster's International camera and stand, landscape lens, Iris diaphragm and shutter, Wood's rapid rectilinear lens and time shutter, three double backs, in waterproof canvas sling case; £5. Charles Miller, 115, Cromwell Road, S.W.

Half-plate International, three double backs, landscape lens, with Iris diaphragm, and Lancaster's shutter, also rapid rectilinear, with Waterhouse diaphragms, extra strong tripod, canvas case; cost £13; take £3; approval; deposit.—Photo, care of Smith and Woolston, Middlesbrough.

Half-plate camera, dark-slide, lens, and stand; 30s.—Knapton, 27, Senegal Road, Cliftonville, Hermonsey.

Lancaster's quarter-plate Instantograph 1888 for sale, three double backs, and tripod stand, lens, shutter; what offers?—Corrie, Acryse Place, Folkestone.

Half-plate Underwood's camera, instantaneous view lens, shutter, double slide, tripod; 60s.; or exchange whole-plate camera.—Chalon, Boys' Refuge, Manchester.

Quarter-plate set, suit beginner, 16s.; also 5 by 4, and quarter mahogany camera and portrait lens, 15s.—O. T., 31, Stanwell Road, Penarth.

Quarter-plate long-focus Kinnear camera (by Horne, Thornthwaite, and Wood), swing and reversing back, swing and rising front, three double dark-slides, Watson's cyclist stand, waterproof sling case, Beck's 7 in. Autograph lens, with Iris diaphragm, and Newman's shutter; £6; approval. — Hubert Henry, 110, Westbourne Terrace, W.

5 by 4 leather bellows camera, reversing back, double swing, rising and falling fronts, two best double slides, rapid rectilinear lens, wide-angle Optimus finder, tripod, canvas case; price 105s. — 273, Walworth Road, London.

5 by 4 camera, stand, Optimus R.R. lens, 2 double dark-slides, and box containing porcelain dishes and sundries; the lot, £3 15s.—S. L., 4, Francis Grove, Wimbledon.

Shutter, Enlarging Camera, etc.—Hunter and Sands' shutter, 15s.; Lancaster's whole-plate Mulum-in-Parvo enlarging camera, new, 17s.; silver stop-watch, new, 30s.; Broughton's ether tank, perfect, 12s.; Warnerke's sensitometer, 12s.—Alpha, 15, Magdalen Terrace, St. Leonards.

Slides.—Three Tylar's whole-plate slides and screen, good order; 10s. 6d.—Ferns, Lisard.

Stereoscopic Lenses.—Dallmeyer's quick-acting stereoscopic lens, 4½ inch focus, excellent for detective work, covers quarter-plate well; cost 40s.; price 32s.; as new; approval; deposit; a thorough genuine bargain.—Garnson, 77, Essex Road, Islington, London, N.

Pair of first-class stereoscopic lenses; will exchange for good half-plate camera and backs. — J. Brewster, 13, High Street, Ayr.

Studio.—Good portable studio, bargain; or exchange good safety bicycle; photograph 2 stamps.—Mason, 5, Pleasant Row, Radford Road, Nottingham.

Sundries.—Tylar's whole-plate double slide and adapter, new, 8s.; Optimus burnisher, whole-plate, as new, 30s.; lathe wheel, iron for gut band, crank, shaft, and turned puller, 20s. — W., Boar's Head, Mold.

Violin.—Violin, bow, case, chin rest, and tutor; a bargain, 15s. 6d. — W. Robinson, Bedford Road, Kempston, Beds.

WANTED.

Cameras.—Half-plate Instantograph camera, without lens or stand. — Photographer, Catherine Street, Devonport.

Lancaster's latest pattern half-plate Instantograph set, in excellent condition. Will exchange gentle-

man's splendid English silver lever watch; cost £5, and cash.—C. G. Hodgkinson, Billingborough, Lincolnshire.

Lancaster's quarter Instantograph, complete with extra dark-slides.—H. Dan, Faversham.

Cameras, etc.—Lancaster's half-plate Instantograph camera, complete; also 6 in. condenser, enlarging apparatus.—Thorold, Hougham, Grantham.

Half-plate Instantograph 1889.—Price and particulars to Wm. T. Ashby, 48, Colwyn Road, Northampton.

Camera Case.—Half-plate camera case, cheap.—Anderson, 49, Cheltenham Road, Clapham, S.W.

Camera case, leather, half-plate, reply stating price, dimensions.—F., AMATEUR PHOTOGRAPHER OFFICE.

Dark-Slides.—Quarter-plate camera, three dark-slides, good make, reversible back, cheap; apply by letter.—H., 33, Ladbroke Road, High Street, Notting Hill Gate.

Dark-slides, half-plate Instantograph; exchange.—M., 99, High Street, Gosport.

Hand-Cameras.—Facile on loan, April 3rd, 4th, and 5th.—F., 35, Bedford Road, Clapham.

Quarter Eureka detective, cheap.—C. Emanuel, 36, Finsbury Circus, London.

Hand-camera, in good condition, quarter-plate, complete with finder, Shew's Eclipse preferred; state lowest terms.—F. Taylor, Littleton, Evesham.

Lantern.—Lantern, complete, and good half-plate lens. Will give Hillman's tricycle, worth £8.—Kennett, Sandgate, Kent.

Lantern, etc.—Enlarging lantern, condenser at least 8½ ins., without lens; state price; full particulars. Also Ross' portable symmetrical lens, No. 4 or 5.—Address, Derrick, 2, Royal Crescent, Cheltenham.

Lenses.—A Ross or Dallmeyer half-plate R.R. lens in good order.—Stewart, Castletown Road, Dundalk.

Wide-angle quarter-plate lens, by first-class maker; half-plate won't do; must be perfect.—Box 25, Post Office, Bradford.

Lens, etc.—Quarter-plate R.R., any good maker; also Tylar's metal slides, for Lancaster's quarter-plate special camera.—State lowest prices to Clarkson, 30, Iona Place, Mount Florida, N.B.

"Pictorial Effects," by Robinson, cheap for cash.—Grant, Westholme, Tottenham.

Sets.—Half-plate camera, three double backs, rectilinear lens, modern make, cheap; state full par-

ticulars; approval.—Young, 30, Menzies Street, Liverpool.

Half-plate Instantograph, complete, with three double backs, first-class condition and cheap; particulars.—Pfeiger, 5, Plimsoll Road, Finsbury Park.

Slides.—Either one or two whole-plate double slides, cheap; particulars and measurements to Walford, 10, Soames Street, Peckham, London, S.E.

Sundries.—Quarter camera case, dishes, printing-frames, lamp.—Clark, 43, Coggeshall Road, Braintree.

A LARGE quantity of useful miscellaneous PHOTOGRAPHIC APPARATUS, including Cameras, Hand Cameras, Instantaneous Shutters, Stands, Negative and Bromide Papers, Plates, etc., will be included in Mr. J. C. STEVENS's next sale, on Friday, 28th inst. Catalogues may be had on application to 38, King Street, Covent Garden, where the goods may be inspected on the day previous, and morning of sale.

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NOTICES TO SUBSCRIBERS.

Subscriptions must be prepaid.

UNITED KINGDOM	Six Months, 5s. 6d.....	Twelve Months, 10s. 10d.
POSTAL UNION	„ „ 6s. 6d.....	„ „ 13s. 0d.
INDIA, CHINA, ETC.	„ „ 7s. 9d.....	„ „ 15s. 3d.

NOTICES AS TO ADDRESS.

PUBLISHING DEPARTMENT.—All letters containing Subscriptions, Orders, Remittances, SALE AND EXCHANGE Advertisements, or other business matters for the *Amateur Photographer* are to be addressed to the Publishers, HAZELL, WATSON, AND VINEY, LD., 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

NOTE.—SALE AND EXCHANGE Advertisements, at the charge of Three Words for One Penny, can be received as late as WEDNESDAY MORNING.

ADVERTISEMENT DEPARTMENT.—All communications respecting TRADE Advertisements in the *Amateur Photographer* are to be addressed to PARRY AND CRAWFORD, 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

NOTE.—Trade Advertisements are received up to Tuesday morning.

EDITORIAL DEPARTMENT.—All Literary Contributions, Queries and Answers, Photographs for Competition or Criticism, Books or Apparatus for Notice or Review are to be addressed to the Editor, *Amateur Photographer*, 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

NOTE.—To ensure insertion all Communications should reach the Editor on Tuesday.

CORRESPONDENCE SECTION.—Anyone wishing to communicate with Contributors can do so by forwarding such Communication in stamped envelope under cover to the Editor, *Amateur Photographer*, 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

THE "AMATEUR PHOTOGRAPHER" FIRST LADIES' PHOTOGRAPHIC COMPETITION.

PRIZES.

First Prize	Gold Medal.
Second „	Silver Medal.
Third „	Bronze Medal.

(These Medals, of the smaller series, will be appropriately mounted as Brooches).

SUBJECTS.

Landscape or Seascape—Landscape with Figure—Genre or Figure Study.

CONDITIONS.

- Not less than six or more than twelve prints are to be entered for competition.
- All prints must be mounted, and the title (only) must be legibly written on the front of the mount.
- The work must be entirely the work of a lady, who must be a bona fide amateur photographer, and must have done all the work, except mounting, herself.
- The negative of the prize photographs must be at the service of the proprietors of the *AMATEUR PHOTOGRAPHER*.
- Photographs can be printed by any process, but must not be printed on opal, or mounted in optical contact on glass.
- All photographs must be sent in on or before the 31st of May.

7. No prints will be eligible that have been entered for any previous competition.

8. Entry forms will be forwarded on receipt of stamped addressed envelope.

NOTE.—The adjudication will be made by lady artists and lady photographers. It is hoped that it will be possible to make arrangements to exhibit the photographs at a *Conversazione* to be held in the offices, 1, Creed Lane, E.C., during the month of June.

Further particulars on application to the Editor, "*Amateur Photographer*," 1, Creed Lane, Ludgate Hill, London, E.C.

"AMATEUR PHOTOGRAPHER" MONTHLY COMPETITIVE PAPERS, 1890.

THE following Prizes are offered for competition every month:—

Three Prizes of £1 1 0 each.

Three Prizes of 0 10 6 each.

And Three Certificates.

The Papers must not exceed 1,000 words; and those which are awarded Prizes will be published in the *AMATEUR PHOTOGRAPHER*; others will be selected, and will be arranged for publication in the

"AMATEUR PHOTOGRAPHER'S ANNUAL."

Contributions are to be upon the subjects as list given below; and in order to make the matter more interesting, it is requested that each competitor shall give his *personal experiences*. It is intended that each subject shall be written up by a specialist for the ANNUAL, and the latest information given. All MSS. must be received not later than the

28TH OF EACH MONTH.

Subjects.

28th March	Optics.
28th April	Action of Light.
28th May	Exposure.
28th June	Plates and Films: their Development and After Treatment.
28th July	Printing, Toning, Mounting, and Finishing.
28th August... ..	Artistic Effect and Composition.
29th September	Outdoor Instantaneous and General Photography

All MSS. to be addressed to the Editor, "*Amateur Photographer*," 1, Creed Lane, Ludgate Hill, London, E.C.

"AMATEUR PHOTOGRAPHER" MONTHLY PHOTOGRAPHIC COMPETITIONS.

THE Proprietors of the *AMATEUR PHOTOGRAPHER* will offer, Monthly, two prizes, consisting of a

SILVER AND A BRONZE MEDAL (WITH RIBBON AND CLASP),

for the best and second-best photographs sent in to each of their Monthly Competitions. The subject of the Competitions will be as follows:—

LANDSCAPE OR SEASCAPE	June 14.
LANDSCAPE WITH FIGURE	July 14.
GENRE OR FIGURE STUDY	April 14 ... Aug. 14.
INSTANTANEOUS PHOTOGRAPHS, — ANY MALS, ETC.	May 14 .. Sept. 14.

Only one print is to be sent in; the negative of the prize pictures shall be at the service of the Proprietors, and all the prints sent in shall become the property of the Proprietors.

In addition to the Medals being given, the prize photographs will be produced in the *AMATEUR PHOTOGRAPHER*.

All photographs for any of the above competitions must be received by the

FOURTEENTH DAY OF THE FOLLOWING MONTH,

and as received will be acknowledged in the columns of the *AMATEUR PHOTOGRAPHER*.

Competitive prints are available for exhibition before Photographic Societies after the 1st of each month.

The prints will all be numbered, and when sent to societies, will be accompanied by a book for criticism. It is hoped that the President or other official will give a note stating the general opinion of the members of the Society.

Entry forms on receipt of stamped addressed envelope.

ILFORD BROMIDE PAPER

IS

BEST OF ALL.

COMPARE THE PRICE.
COMPARE THE RESULTS.

Rough or Smooth. Rapid or Slow.

Characterised by a wonderful linear fineness and gradation of tone. Colour, a rich engraving black. Rapid for enlargements by artificial light, slow for contact printing.

4½ by 3½ in. 6d. per dozen sheets.	10 by 8 in. 3/0 per dozen sheets.	18 by 15 in. 5/3 per ½ doz. sheets.
5 " 4 " 9d. " "	12½ " 10½ " 4/6 " "	20 " 16 " 5/9 " "
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8 " 5 " 1/9 " "		24½ " 19 " 7/6 " "
8½ " 6½ " 2/3 " "	Roll, 10 ft. long by 24½ in. wide ... 8/6	

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VOL. XI. No. 287.]

FRIDAY, APRIL 4, 1890.

[PRICE TWOPENCE.]

OUR VIEWS.

"To hold as 'twere the mirror up to nature."—Shakespeare.

MR. PIRIE has written us a long letter upon the work done, or left undone, by the Edinburgh Photographic Society. He suggests the establishment in Edinburgh of a society for amateur photographers. From our experience we are certain that there are scores of workers who would join a society on the lines of the Camera Club, with head-quarters in Edinburgh. The existing Photographic Society is an old one, has a large number of members, but very few active workers, to our knowledge. The officials never contribute any report to our columns or those of the PHOTOGRAPHIC SOCIETIES' REPORTER. We are favoured occasionally with a very meagre printed report of the proceedings, and we believe that some few communications find their way into the columns of our contemporaries. We should of course like to see an amateur society formed in Edinburgh, and would give it every possible support. The Leith society has been a success from the start, due in no small degree to the care that the executive have always taken to make known the doings of the society through our columns and the REPORTER. The Edinburgh Society is, we believe, excepting perhaps the Camera Club, the largest in the world, and it is a fact that it contributes less to aid photographers and advance photography than any other society. We hope our readers will follow the suggestion in Mr. Pirie's letter, and that active steps may be taken to form a society, in order that a suitable "home" may be found, and everything got into good working order before next winter season.

* * * *

A SUBSCRIBER, Mr. Walter J. Davies, has kindly sent us an album of photographs, his own work, to be given to a hospital. The photographs are all carefully mounted and titled, some of them being accompanied by a brief description; on the opposite page short poems and Scriptural texts are carefully written, many of them having some special bearing upon the scene photographed. This addition to the album increases the value considerably. We would suggest that the enthusiastic amateur photographer prevail upon "his sisters, his cousins, and his aunts" to

seek for appropriate quotations from the classics and modern poets, for the photographs in the securing of which he devotes so much time and ability, thus giving an additional interest and affording a useful and instructive occupation for many a "leisure hour."

* * * *

A VERY interesting lecture upon "Celestial Photography" was recently delivered before the members of the Colchester Camera Club and others, by the Rev. E. Ledger, Gresham Professor of Astronomy. A summary is given in the current issue of the PHOTOGRAPHIC SOCIETIES' REPORTER. To the student the lecture will be of great value, and to the photographer it opens up new fields of work.

* * * *

WE are pleased to notify that, mainly through the exertions of Surgeon-General A. H. Beaman, an Amateur Photographic Society has been formed at Bedford. A short report of the opening meeting will be found in another column.

* * * *

THE AMATEUR PHOTOGRAPHER may be said to have fairly fulfilled the intentions of its founders, but there would appear to be a large field in which to extend its usefulness, and to that end it is intended to appoint "District Editors," who shall have the charge of a certain number of photographic societies, and attend the meetings on behalf of the AMATEUR PHOTOGRAPHER and the PHOTOGRAPHIC SOCIETIES' REPORTER. We shall hope to have "districted" the United Kingdom before the winter season comes round, sufficiently to have every photographic society in touch with our "District Editors." The reason of this step is to secure popular reports and chronicle the doings individually and collectively of the hundreds of ladies and gentlemen who are now interested in photography. Our "District Editors" will encourage and assist the formation of new societies, and help in the interchange of thoughts and ideas, bringing members of different societies closer together. It is intended that as far as possible they shall be identified with

For Contents, Prize Competitions, Notices, etc., see page 248.

the local Press, and we shall be glad to hear from our subscribers of gentlemen who are Press men and photographers.

The "districting" of the United Kingdom will be the work of some months, and will require considerable organisation; but we feel that, as the AMATEUR PHOTOGRAPHER has been the sponsor for all the later photographic societies, it is our duty to strive to bring about a system of "districting" that will help each society, and tend very much to advance photography throughout the kingdom. We have had much experience in the loaning of photographs and lantern slides during the last six months, and have had ample opportunity of learning how desirable a system of "districting" has become. Each "District Editor" will contribute short reports to the AMATEUR PHOTOGRAPHER of the societies attached to his centre, and more exhaustive reports for the REPORTER, so we shall hope to secure particulars of all societies, great and small.

* * * *

At the moment of going to press we have received a notification from the Crystal Palace authorities that the "Silver medal given by Mr. S. G. Buchanan Wollaston for the best picture, irrespective of class, in the Amateur section, not having taken an award in the Exhibition," has been awarded to Mr. Paul Lange for "A Tour in Norway," contributed to the AMATEUR PHOTOGRAPHER "Prize Tour Competition." The award will carry with it an extra AMATEUR PHOTOGRAPHER Gold Medal. The remaining pictures entered in the Prize Tour Competition will be adjudicated upon this week, and the full list of awards published in our issue of the 11th inst. The "Silver medal given by Mr. J. F. Peasgood for the best picture, irrespective of class, in the Professional section, not having taken any other award in the Exhibition," has been awarded to Mr. F. Whaley, for "A Tale of the World." A "Special silver medal for a picture not previously shown at any public exhibition" has been awarded to Mr. E. C. Middleton, for "Gossips."

The following are the awards for lantern slides entered for competition at the Palace:—

LANTERN SECTION.—BRONZE MEDALS.

Professional Section.—Set of 48 Slides.

Section	1.—British subjects	J. Dore.
	2.—Foreign "	G. E. Thompson.
	4.—Microscopic	F. Evans.
	5.—Statuary	Sciopticon Co.

Amateurs.—Sets of 6 Slides.

Section	1.—British landscape	F. Griffiths.
	2.—Foreign views	A. Heywood.
	3.—Seascapes	F. W. Wade.
	4.—River and lake	J. E. Austin.
	5.—Architectural exterior	E. A. White.
	6.—" interior	J. A. Sinclair.
	7.—Still life	J. Carpenter.
	8.—Animals	K. L. Reynolds.
	9.—Figures in motion	H. Little.
	10.—Microscopic	A. A. Carnell.

Out of this list we note with feelings of pride that of the ten prize winners in the amateur section, three, Messrs. Austin, Reynolds, and Little, were successful in the AMATEUR PHOTOGRAPHER Lantern Slide Competition; and of the ten prize winners seven entered our competition.

* * * *

We shall be glad to hear from any of our readers who may have suggestions to make with regard to the

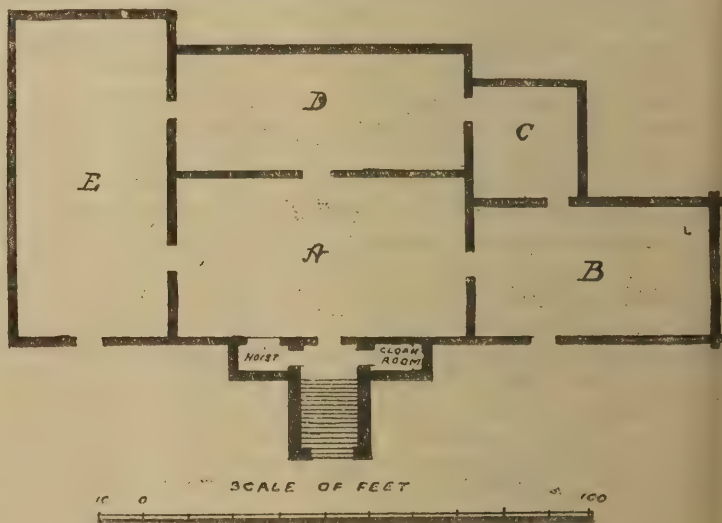
"AMATEUR PHOTOGRAPHER Annual." It is hoped that in another month or so the active work of compilation may be put in hand. The issuing of an Annual has been pressed upon us ever since 1885, and we shall do our best to bring out something which is both new and true.

* * * *

THE LIVERPOOL 1891 EXHIBITION.

THE scheme of the proposed exhibition to be held in Liverpool in March next year having been fairly launched, we hasten to give our first impressions relative to the venture. That the show will prove an unqualified success there can be little doubt. The Liverpool Amateur Photographic Association, under the auspices of which the exhibition will run, is not only strong numerically, but it includes many members of acknowledged ability and experience, and to these qualities may be added those of vigour and enthusiasm. The scheme has been under the official consideration of the Council of the Association since February last; the preliminaries were laid before a general meeting of the Society on the 27th ult., and, to put the matter concretely, were adopted with the utmost cordiality and unanimity. This auspicious opening has, of course, a significance which cannot be well over-estimated, especially when the circumstances affecting and the brilliant success attending the Liverpool show of 1888 are considered. Since that time the Association has strengthened wonderfully, gaining in life, talent, and energy.

As in 1888, the show of 1891 will be held in the Walker Art Gallery, and here the Liverpool Society have the advantage of a suite of rooms perhaps the finest for an exhibition of this kind, in Great Britain. We publish an outline plan of the rooms for the benefit of our readers.



The dimensions of the galleries are:—A, 66 ft. by 36 ft.; B, 62 ft. by 30 ft.; C, 22 ft. by 22 ft.; D, 65 ft. by 26 ft.; E, 72 ft. by 35 ft.

In addition to the galleries which will be occupied by the exhibition, the Walker building includes several other spacious rooms, containing the permanent collection of Corporation pictures. These, as will be noted in the case of the exhibition galleries, form a continuous series. During the time the exhibition runs—four or, perhaps, five weeks—special arrangements will obtain with regard to the admission of the public in both sections. The excellent cellarge of the building will be at the disposal of the

Society for the storage of exhibits one month before the exhibition opens. In this department the "hoist" indicated in the above plan will prove invaluable.

Thus far the scheme has everything in its favour, but much more remains to be said of the adjuncts which it is believed will have a large share in influencing the success of the show.

It is intended that the exhibition shall be attractive and popular to the outside public, novices, and the rest, as well as being a show which will command the confidence and co-operation of amateur photographers both at home and abroad. It is intended to combine the useful and practical with the pleasurable and ornamental. Galleries B and E are to be utilised as lecture and demonstration rooms, alternately or simultaneously occupied every evening. The lecturers will be selected from the front rank of authorities, the subjects treated to range over a wide field.

The same appreciation of what is essential to an exhibition satisfactory to all parties has been shown in the consideration of exhibits, adjudications, and awards. A new feature, that of encouraging exhibits from the colonies and abroad, is likely to prove a good experiment. Exhibits without frames may be sent cheaply packed in boxes, the executive undertaking to supply frames at their own expense. Competitors in any and every class need fear no unfair or disadvantageous classification. Thus "medal pictures," "trade exhibits," "quasi amateur work," &c., &c., will each have a distinctive class assigned them, as will work that is solely and purely amateur, and solely and purely professional. This is an important step in the right direction, the significance of which will be obvious to all who have had experience of past exhibitions.

It is intended that the Liverpool show of 1891 shall offer a fair and square field of competition, in which exhibitors will be treated with all generosity consistent with absolute impartiality. The adjudicators will be selected from the best judges (acknowledged) of photography, whose names when they are published will be a guarantee of competence and all-round fitness for the office.

Such is the broad outline of the scheme recently adopted by the Liverpool Amateur Photographic Association. That the Society contains the men to carry the project to a triumphant issue is well known. We might mention many gentlemen, members of the Liverpool Association, whose names are amongst the most familiar and weighty in the photographic world. Those of Mr. Paul Lange and Mr. Thomas Mayne come readily to the mind. Both gentlemen are prime movers in the scheme under notice. They are ably supported, and bid fair to eclipse their best efforts in the past—prominently successful as these have been. Meanwhile, together with the Council of the Society, they have the complete confidence of their nearly 300 fellow-members. The great show will be awaited with increasing interest.

URANIUM INTENSIFIER.—A correspondent writes:—I have tried this intensifier; it seems to act differently with different plates, giving generally much hardness and lumpiness. It is a pity the describer of this process did not state how reduction may be best effected in case of over-intensification. Some time ago I tried the magnesium mixture given in the *Moniteur de la Photographie*, and quoted in your issue of March 7th. I found it very uncertain and even apt to die out before wholly burnt, possibly owing to the quality of the magnesium powder.

Letters to the Editor.

WHAT PHOTOGRAPHY WILL NOT DO.

SIR,—Capt. Abney, who is a recognised authority on photographic subjects, has assuredly overshot the mark when he comes to tell us what photography does not do—as yet. We all know it will not give pictures in colours, but what should have induced this well-known scientific man to take a pessimist view of the possibilities of scientific progress in the future, just at the very instant when a German chemist has gone very far on a similar road to that which the Captain himself has traversed, it is impossible to understand. Why should Captain Abney prophesy that such a discovery as a process of photographing in colours will never be made?

In chemistry some new formula is discovered or invented every day. And since the days of Isaac Newton, knowledge on matters of science relating to light has much advanced. Who could have prophesied that photography would have been a possible *fait accompli*, before Newton's time, any more than the application of electricity to lighting or locomotion, before that of Franklin. On the contrary, the prophet who a hundred years ago would have declared photography impossible, would cut the same sorry figure that Capt. Abney must cut himself if ever the knowledge of the power of light and its chemical action, in reproduction of colours, should eventually also become an accomplished fact. Capt. Abney may be disappointed with the results of his own experiments in that direction, and it may be, as he says, in a century the Edison of photography will be born, but as I believe in a continually growing progress of scientific knowledge and discovery, I can only hope that the renowned Captain may live long enough to see this desired result—however far off as yet—of transmission of colours by light, and acknowledge his error.—I remain, sir, etc.,

L. M.

* * * *

TOUCHING UP.

SIR,—Might I here mention a point which a further knowledge of the chemistry of the process somewhat affecting the *modus operandi* has called to one's attention.

The chemical action involved on application of the KCN is, I take it, roughly the formation of potassic argentic cyanide; this double and white salt being readily soluble in water, of an unstable nature, and tending to reduce in presence of organic matter into cyanate, which latter, with some hydro carbon, is presumably the yellow stain of one's earlier experiments.

Hence the lesson our chemistry teaches us is brush water-wash at once in every case, and thoroughly, thus obviating any likelihood of after surface discolouration at, may be, some later date.—I am, Sir, yours,

A HUMBLE MEMBER OF THE CRAFT.

March 24th, 1890.

* * * *

OBER AMMERGAU.

SIR,—I can get all ordinary particulars as to route from Messrs. Cook or other agents, but what I cannot learn is anything about photography on the way or at my destination.

I chose my route several weeks ago, *via* Harwich, Rotterdam, steamer on the Rhine from Cologne to Mayence, thence by rail to Nuremberg and Munich.

I should like to know if photography is permitted in Germany, and regulations as to Customs duties, etc., and whether English plates can be got *en route*, at reasonable prices and in good condition.

Possibly some kind correspondent may reply to the query you were good enough to insert for me.—Yours, etc.,

March 26th, 1890.

EDWARD J. POPE.

* * * *

THE PHOTOGRAPHIC SOCIETIES' NATIONAL CHALLENGE CUP.

SIR,—In reply to the letter in your last number signed by Mr. Edgar G. Lee, we append the following copy of a letter addressed to that gentleman some days before the opening of the Exhibition.

We venture to think that your readers will conclude that in offering to allow the Newcastle Society to substitute other pictures for those which had been previously shown, and

medalled, at the Crystal Palace, we did even more than they had a right to expect.—Yours faithfully,

S. G. BUCHANAN WOLLASTON.
J. FR. PEASEGOOD.

Crystal Palace, S.E.,
March 28th, 1890.

"Crystal Palace, February 26th, 1890.

"Edgar G. Lee, Esq.

"Dear Sir,—Your papers duly to hand, and we are much obliged for the great care you have taken. We must point out that Mr. Gibson has included two pictures with the same title as previously sent; also Mr. Lyd. Sawyer has sent again "The Boat Builder," though shown here in 1888, and "The Castle Garth," shown here last year. As we cannot admit pictures more than once, perhaps they would like to substitute others.—Yours truly,

J. F. PEASEGOOD."

* * * *

AMATEUR PHOTOGRAPHIC SOCIETY FOR EDINBURGH

SIR,—The letter by Jas. Crighton in your last week's issue but confirms me in the views which I expressed in my last communication. In the first place I was unaware that the subject had been raised before, and the fact that it was "disposed of" two years ago does not affect the present movement. Amateur photography has grown immensely since then. It is encouraging to me, however, to know that the complaint I gave vent to is not a new one, and the Edinburgh Photographic Society might be convinced by these renewed expressions of discontent that there is something wrong with the method of conducting business.

Mr. Crighton cannot dispose of me by saying that I have no personal experience of the matter because I am not a member of the Society. The reason I am not a member of the Society is that it is not worth joining. I went to one meeting to see what it was like, and I found a gentleman, *not a member*, contributing the practical part of the proceedings, while what the members contributed was utterly worthless. Not even a professional was able to say a word which anyone would care to remember. On that evening there was what is called an exhibition of apparatus. What took place was unseemly, and if it had been reported I fancy the Edinburgh Society would have whistled long before they would have fetched makers of apparatus to another exhibition. Imagine the Secretary of a society, to whom valuable goods had been consigned, turning them out helter-skelter on a table, and then suggesting that they should be kept till next meeting. I was not at the next meeting, and cannot therefore say what articles were left to be inspected at it.

I know that the Society is largely amateur, and that its office-bearers are nearly all amateurs; but with all these advantages the Society is not a working one, and the cause I attribute to the presence of professionals. Amateurs are not, as a rule, particularly well up in their art, and it is against reason to expect that, except they be of a very forward disposition, they will get up in a meeting and advertise their weakness in the presence of gentlemen who have the whole subject at their finger-ends.

If it be replied that the amateur may learn from the professional, my answer is that that is as unreasonable an expectation. The professional cannot assume the role of teacher, for two reasons. In the first place he might divulge something which is of value to him, and in the second place he would be charged with monopolising the time of the meeting if he were always speaking.

The only remedy is to be found in a separation of the classes. Let professionals meet together, and discuss their work, and let amateurs by themselves help each other.

A good example of how the two systems work is to be found in this neighbourhood. In Edinburgh the society is mixed, and its proceedings are seldom worth noticing in the pages of the photographic journals. There has scarcely been as much as a paragraph in the AMATEUR PHOTOGRAPHER during the past winter. In Leith there is an amateur society which is doing good work. Its meetings are regularly noticed, and during the past year two of its members have gained AMATEUR PHOTOGRAPHER medals.

If Mr. Crighton replies to this letter he might say when the last prize was won by a member of the Edinburgh society. He might also say what the membership is, and what the average attendance of members.

I could write much more, but this letter is already too long. I am pleased to see that I can count upon the support of Mr. M'Phail, and I hope you will allow in your columns, for a few weeks, an expression of opinion, and thereby assist us in accomplishing our purpose, which is to found in this city, that is teeming with artists, an active and, I trust, a flourishing amateur photographic society.—Yours, etc.,

JOHN PIRIE.

* * * *

EXPERIMENTS WITH OXYGEN CYLINDERS.

SIR,—With reference to the account of experiments, in the *Glasgow Herald*, on the cylinders, copied in your issue of the 21st inst., I think it would tend to place the estimate of security on a sound basis if the Secretary of the Company would be kind enough to answer the following questions:

(1) What is the strength per square inch of sectional area of the mild steel used for the cylinders, as tested in the way that steel is usually tested before being used for boiler-making or bridge-work? The maker of the steel can usually furnish this.

(2) How was the cylinder purposely burst, in the experiment named when the portions was found to be cold?

(3) Is there any evidence of the burst cylinder which caused the fatal accident having contained a mixture of oxygen and hydrogen, other than the alleged fact of the portion being found to be hot?

(4) The above named gases when mixed do not explode, unless something is present to cause chemical combination. Is any theory to account for such combination offered?

(5) What was the pressure in the cylinders experimentally allowed to drop and otherwise tested? They are said to have contained the *full quantity*, except that containing liquid carbonic acid.

In this last case, and in the others, the pressure would depend on the temperature, and the data therefore are insufficient to prove anything, except the ductility of the steel, which seems good.—Yours, etc.,

GEO. M. SEABROKE.

March 28th, 1890.

* * * *

YELLOW STAINS ON BROMIDE PAPER CAUSED BY HYDROQUINONE—WHAT REMEDY?

SIR,—As the above is frequently cropping up in your Query columns, I take this leave of making known the following remedy, which I have found to act excellently, written by Mr. Horace H. Roden, and taken from the "British Journal Almanack," page 416:—"Dissolve in 1 oz. of water 20 grs of potassic iodide, and add to this 1 grain of auric terchloride. The resulting fluid is of a deep brown colour. To use this, add sufficient water to make the resulting mixture of a pale sherry colour, and immerse the print therein after well washing. The back of the print will rapidly assume a blue tint, due to the formation of starch iodide, and this will gradually deepen in colour, eating its way (visibly) into the weaker portions of the film. The yellow portions darken, but slowly and finally assume a reddish-purple tinge. At this stage the print should be removed from the dish. Soaking in cold water for an hour or so will remove all the blue tint, and the print will be found to be intensified throughout, and the yellows altogether disappeared."—Yours faithfully, W. E. REYNOLDS.

* * * *

LOAN OF LANTERN SLIDES.

SIR,—About eighteen months ago I promised to lend a box of quarter-plate negatives to brother amateurs, suitable for lantern-slide making, little knowing at the time what a number of requests I should have for them. The original box that I sent out is now again in my possession, having only been round to half the people who applied for the loan of it, but I am sorry to say during the time it was out, either from careless packing or carelessness on the part of the Post-office officials, over twenty negatives have been either broken or scratched beyond recognition. Under these circumstances I am obliged to withdraw the box from further circulation. I have had many letters of thanks from those who made use of my negatives, which have been very gratifying to me, but as there are still a great number on the list who are doubtless still waiting for the box, I should be much obliged if you would kindly insert this letter.—I am, etc.,

March, 29th, 1890.

WENTWORTH A. J. CROKE.

BLACKWOOD'S PHOTOGRAPHIC LENS.

SIR,—I noticed in your paper about three weeks ago an article on a patent by Mr. Blackwood for altering focus of lenses. I shall be glad of a little further information about same. I have an 8 by 5 R.R., by Beck, and I want to make it into a W.A. lens of about 4 to 5 inch focus. About what number convex and concave lens (uncut optic) ought I to insert in mount? I have tried, rather unsuccessfully, one or two such glasses, for although I can diminish focus, I find that the more I do so the more is the flatness of field sacrificed. I can get the short focus by a very weak double concave with somewhat stronger convex. But would it answer better to have a strong concave with a stronger convex? I want some number to start from, for the concave, and, of course, could then add convex glasses of such strength as was necessary. At present I can ring the changes on the various numbers of either. And ought the concave to go in front of convex?—Yours, etc.,

March 24th, 1890.

A. CORNISH.

* * * *

ALPHA PLATES.

SIR,—I am glad to see the letter in this week's AMATEUR PHOTOGRAPHER complaining of the finger marks (for that is what I believe they are) on the Ilford Alpha lantern plates. I have been very much annoyed by this defect, and so have many of my friends that have used them. I like the plates very much, but I have invariably found out of every packet there are several damaged by finger-marks. It greatly adds to the expense to have to make fresh slides for the faulty ones.—Yours, etc.,

144, Commercial Road,

CHRISTOPHER J. KIRBY.

Peckham, S.E., March 29th, 1890.

SIR,—In reference to the lantern Alpha plates as complained about by Mr. A. H. Livingstone in your previous issue, he is not the only unfortunate individual having such defects. I had out of a packet, using eight plates, three bad, one with rather a large spot. They give, as he says, nice warm tones.—Yours truly,

T. H. LYELL.

Lewes.

SIR,—My experience of the Alpha lantern plates tallies exactly with that of Mr. Livingstone. Last December I determined to try these plates, and, fortunately, bought a single packet as a sample. Every one of the dozen turned out like the specimen I enclose herewith.—Yours truly,

E. STEP.

The Mays, Epsom, March 28th, 1890.

NOTE—Undoubtedly spoilt with finger marks on the emulsion.—ED: AM: PHOT.

* * * *

ISLE OF WIGHT.

SIR,—Your correspondent, Mr. W. F. Jones (page 184) did well, in answering the query of "Nero" (page 163), to recommend Rayner's Temperance Hotel, Ventnor. But, as all amateur photographers are not teetotalers, I beg your leave to recommend, with equal confidence, two other hotels in Ventnor, viz., the "Crab and Lobster," about three minutes' walk from the railway station, and the "Queen's" Hotel, on the Esplanade. The early-rising amateur, who puts up in the latter, may take seascapes from his bed-room window. A photographic dark-room has been fitted up for the use of amateurs staying at any of these three hotels, which is situate about an equal distance from all of them.

Ventnor is certainly the best place on the "Island" in which the artist can take up his temporary abode. It is situate in the centre of the best scenery; Bonchurch and the "Landslip" on its eastern side, and the far-famed "Undercliffe" to the westward, while other points of interest can be easily reached, either by railway trains, which run frequently during the day, or by the numerous four-horse coaches which, starting from Ventnor as a centre, are just commencing their daily excursions for the season.

I must not omit to mention that meteorological observations, extending over a long period, show that Ventnor enjoys in early spring an exceptional amount of bright sunshine.—Yours faithfully,

VECTIS AMATEUR.

PHOTOGRAPHIC SOCIETY FOR THE POTTERIES.

SIR,—Will you kindly allow me, through your valuable paper, to reply to Mr. Powell's letter on the above subject, which appeared in your last issue. There may be no such Society in the Potteries, and judging from the heading, he does not wish to form a Society in the Potteries, so much as for the Potteries. Messrs. Powell and Hewitt, perhaps, are not aware that there is already a Photographic Society for the Potteries, under the name of the Newcastle (Staffordshire) and District Amateur Photographic Society. By the word "district," we undoubtedly mean the pottery towns, for although Newcastle is not really in the Potteries, yet we are almost surrounded by the Potteries, and every one of the pottery towns is within easy distance of us. Again, about three-fourths of our members come from the Potteries, and several from the town mentioned in Mr. Powell's letter, namely, Burslem. Taking all into consideration, I think it would be a bad thing to have two societies so close together, and would advise Messrs. Powell and Hewitt and any other amateurs in the district, to let me have their names as candidates for membership of our Society. I shall be pleased to hear from Messrs. Powell and Hewitt on the above subject. Any information respecting our Society may be obtained from our Vice-Presidents, viz., Mr. W. E. Leek, Newcastle, Staffs.; Mr. Thomas Stanway, Caudon Road, Hanley; and Mr. H. E. Whytehead, Tramway Depot, Stoke-on-Trent, or from, yours faithfully,

W. WILBERFORCE BEACH (Hon. Sec.)

The West Brampton, Newcastle, Staffs.

March 31st, 1890.

The Complete Photographer ;

OR,

THE MODERN RECREATION OF CONTEMPLATIVE MEN.

BY H. P. ROBINSON.

CHAPTER VII.

EXPOSURE.—(Continued from page 194.)

PUPIL.—Before you develop the negatives, I should like to get to the bottom of some mysteries that puzzle me. To begin with—Why must I focus with the same stop as that used when the plate is exposed, when removing the stop would give me more light to focus with?

PHOTOGRAPHER.—Because, in my opinion, with different sized apertures, the focus is not in the same place. I have read a much diagrammed mathematical nightmare, which demonstrated that this is theoretically impossible, but I feel right, in this instance and for practical purposes, in trusting the evidence of my own senses. Suppose we have a demonstration all to ourselves. We will take the 15 by 12 camera and rectilinear lens, because these things are more visible with large lenses. We will set up three objects; pages of advertisements on white paper with large type will do, one nearly behind the other, but all visible from the camera. The first shall be 25 ft. from the lens, the second 30 ft., the third 35 ft., using the full aperture. Focus carefully on the central object, the 30 ft. Now, what do you see?

PUPIL.—The letters on that object are quite sharp, and the other two are much out of focus.

PHOTOGRAPHER.—Now I will insert the $f/23$ stop.

PUPIL.—The central and most distant objects are in focus, but the nearest object is nearly as much out of focus as before.

PHOTOGRAPHER.—That is what might be called ocular demonstration, and is worth all the theory in the world. The focus has shifted further away, and, in fact, sharpens the distance while doing little good to the foreground. It would not matter so much if the effect were reversed. It is not, indeed, a very serious matter in many cases, but it is as well to know what you are going to get. I found it out

this way. I had got a beautiful foreground of daisies, and focussed with full aperture so as to get the little white stars about 30 ft. away in focus, trusting to the $f/23$ stop to pull the others into sufficient definition; but on developing I found the nearer daisies were neglected by the focus, and the plane of sharp focus had advanced further into the scene. Of course, the first thing suspected was that the screen and plate did not fit into coincident planes. This was soon found to be a mistake, and further investigation showed the true cause.

PUPIL.—I think the case is proved. My next question is this. You said that $f/23$ is the smallest stop you use for

swing-back enables the photographer to dispense with small stops. I think I must give you a paragraph from one of his always clear and lucid papers, which contains nearly all you need know scientifically about focus:

"The aperture or diameter of stop also determines the amount of depth of focus, and this increases in the same proportion as the diameter of stop diminishes. Hence, twice the 'depth of focus' can only be had at the expense of four times the exposure. This originates with a law in optics—one that cannot be set aside—viz., that for every varying distance of the object from the lens there is a corresponding different focus also. Thus every point in an



H. BADEN PRITCHARD.
J. H. DALLMEYER.

R. T. CRAWSHAY.

DR. DIAMOND.
H. P. ROBINSON.

G. W. SIMPSON.

W. MAYLAND.

pictorial photography. Why is that, when a smaller stop would give better definition?

PHOTOGRAPHER.—I never care for excessive definition. In my opinion, extreme sharpness destroys vigour, roundness or solidity, and atmospheric effect. It is a great mistake to suppose, as I think I have already said, that experienced photographers crave for excessively sharp pictures, although such has been declared to be the fact by a young and inexperienced writer who has been carried away by the enthusiasm of ignorance. The demand has always been for the focus to be spread over the different planes so as to avoid painful sharpness on the one hand and equally painful blurring on the other. As the late Mr. Dallmeyer pointed out years ago, a proper understanding of the use of the

object out of focus is represented in the picture by a disc or circle of confusion, the size of which is proportionate to the aperture in relation to the focus of the lens employed. If a point in the object is $\frac{1}{100}$ of an inch out of focus, it will be represented by a circle of confusion measuring but $\frac{1}{100}$ part of the aperture of the lens; and when the circles of confusion are sufficiently small, the eye fails to see them as such; they are then seen as points only, and the picture appears sharp."

PUPIL.—I have no doubt that is very clear. I must think it over by myself. May I express my thankfulness that you don't often drop into science? One more question before we proceed. In the course of miscellaneous photographic reading I have gone through since we met so happily

in the railway carriage, I have been much interested in exposure tables. You, as an old photographer, may not want them, but would they not help a young beginner?

PHOTOGRAPHER.—As bladders a young swimmer, they would delay your progress. They are, as you say, interesting, but have nothing to do with our present purpose, which is one side of practical photography. These tables may be of use for enlarging and copying, but not out of doors. Nothing but experience will teach you picture exposure. There are so many things that go to the determination of the time of exposure. By aid of much arithmetic you may determine exposure sums as regards the equivalent focus and relation to it of the aperture of the diaphragm, and even square the sensitometer if you do not consider such a proceeding immoral, but there are other always varying conditions to consider; the light, the subject, your own mind, for you may decide that the result shall be either forcible or soft; all these things go to the making up of the exposure sum. Then again while you were making your calculations your subject may "softly and suddenly vanish away" as the Baker did when he saw the Boojum, as described in that good photographer, Lewis Carroll's wonderful "agony," "The Hunting of the Snark," the mention of which reminds me that there is in this delightfully insane poem some lines that exactly describe, though not intentionally, as you would suppose, the use of exposure tables. Here it is:—

"Taking three as the subject to reason about—

A convenient number to state—

We add seven, and ten, and then multiply out

By one thousand diminished by eight.

"The result we proceed to divide as you see,

By nine hundred and ninety and two;

Then subtract seventeen, and the answer must be

Exactly and perfectly true.

"The method employed I would gladly explain,

While I have it so clear in my head,

If I had but the time and you had but the brain—

But much remains to be said."

The sight of that book brings back the memory of old friends. I well remember buying it. It was at the Gloucester bookstall. We were a party of photographers returning from our annual spring visit to Mr. Crawshay, at Cyfarthfa Castle. Among us were Dr. Diamond, G. Wharton Simpson, H. Baden Pritchard, J. H. Dallmeyer, all gone now, as well as our host, the most enthusiastic of all amateurs, whose residence reminded one of feudal times. Their personalities were scarcely known to the present generation, but the names are still "familiar in their mouths." It is difficult for a present-day photographer to realise the enormous debt his art owes to the five names that have so casually cropped up. You will be interested in a group I will show you representing some of us. It was taken at Scethrog, Mr. Crawshay's fishing place on the Usk. I think it was Mr. W. England who sacrificed himself out of the group to do the exposing. The book kept us merry for the rest of the journey home. I suppose all the world, both young and old, have to thank the author of "Alice in Wonderland" for more delight than any other writer. Could anybody want a better record?

MARION'S "Practical Guide to Photography" has reached a fourth edition, and well deserves its success. It is one of the most comprehensive handbooks, at a low price, that we are acquainted with. It is fully illustrated, and deals with every process for the production of a negative, printing, toning, retouching, combination printing, and last, but by no means least, instructions, with clear illustrations, for cutting up the sheets of commercial sensitised paper.

Kambling Papers.—XI.

BY W. K. BURTON.

STORING OF SENSITISED ALBUMENISED PAPER.

I READ, some months ago—I forget now where, or by whom written—a very interesting paper on the effect of different substances in contact with common sensitised paper, in preserving it from destruction by spontaneous darkening. I was glad to see that my old friend carbonate of soda (common washing soda) came out best. I also saw a confirmation of a fact that I had often noticed, namely, that a sheet of ordinary sensitised paper, no matter how much discoloured itself, had a wonderful preserving action on fresh sensitised paper when used as a wrapper. This is a very useful fact to know. I wonder, however, that common "soda paper," the use of which has been so often described that it must be pretty well known to all, is not more common than it is. Any kind of paper that has not printed matter on it will serve. It has only to be soaked in a pretty strong solution of washing soda, and to be dried, when it is ready, and will serve indefinitely. It is commonly recommended that the sensitised paper be piled with alternate sheets of such soda paper with a weighted board on top, and this is certainly the best way in which to use the preservative, but it is wonderful how much the keeping qualities of sensitised paper are improved by merely wrapping a sheet or two of the soda paper round a roll of the silvered paper. This applies both to "ready sensitised paper" and to paper sensitised on a neutral bath. All this, however, is so well known that it is mere waste of space to say anything more about it.

What I wish is to point out a little thing in connection with the keeping of paper, either immediately after sensitising or in the case of ready-sensitised paper after purchase, that is, I think, not generally known. It is commonly recommended—indeed, I think I have recommended it myself—that sensitised paper, to preserve it, should be kept flat under pressure, as, for example, in a printing frame. Now I state, and this not without much experience and actual comparative experiments, that such paper keeps *very much better* if simply laid loosely in any box or drawer that is light-tight. I am speaking now on the assumption that soda paper is not to be used. Any one may satisfy himself of this by performing the very simple experiment of cutting a sheet of sensitised paper in two, cutting one half into, say, half a dozen pieces, and placing under pressure in a printing frame, and laying the other half loose in a drawer. The former will discolour much sooner than the other. The only objection to keeping "loose" is that the paper is liable to curl up.

I have kept untuned prints on "ready-sensitised paper" loose, as described, for over a year, and on ordinary home-prepared paper, for over a month in tolerably cool weather, without the faintest discolouration, but it is to be observed that *printed* paper keeps rather better than that which has not been printed. This can, I think, only be accounted for on the assumption that in the case of the printed paper there is some reduction of the silver salts even in the whites, and that the paper retains a certain amount of liberated chlorine in the pores, which acts as a preservative, but this is by no means a very satisfactory explanation, as there must always be excess of silver nitrate present. The following will illustrate the matter. A sheet of quite freshly sensitised paper is exposed under an opaque stencil till the exposed parts are *slightly* tinted, and is placed on one side in any dark place. As the paper spontaneously darkens it will sometimes—but by no means always—be found that the

unexposed parts of the paper darken so much more quickly than the exposed, that they soon appear of a darker colour. In the same way, I have sometimes found, in the case of a print taken from a negative showing very strong contrasts, and kept too long before toning, that the lighter details have assumed a *negative* appearance. It will be seen that the result of these experiments disproves the theory of the "continuing action of light" stated by some to take place in the case of ordinary sensitised paper, and, in fact, my experience is all against the existence of such continuing action.

THE USE OF OLD TONING BATHS.

I have recently seen it stated by more than one that, contrary to the statements commonly made in the text-books, the borax and other similar baths may be used over and over again. There is, I think, a complete misunderstanding in the case of those who make these statements, as to what is meant by the "keeping" of a toning bath. Of course, the borax bath or any other bath not supposed to "keep" will tone a second or a third time, or any number of times, if gold enough be added each time before toning to do the work, but this is not what is meant by the "keeping" of a bath. What is meant is, that the gold left over from the first toning remains unprecipitated, and is available for the second toning, and so on, not enough gold to do the whole toning being added, but only enough to replace what has actually been used up. Now those who describe the using of the borax bath over and over again, mention the *blackening* of the solution, and the necessity for filtering off this black precipitate. Now this precipitate is simply the gold that was left over from former tonings, and that is certainly *not* available for further toning. The way in which to find out whether a borax toning bath really will keep or not, is to make one up a good deal stronger than is necessary (stronger in gold), to tone, say, half the number of prints that it is capable of toning, to put it on one side for some time, and then to see if it will do more toning *without further addition*. I am not prepared to say that *quite the whole* of the gold goes down in such a case, but I know that the amount that remains in solution, in a form available for toning, is so slight that it need not be taken into consideration, at any rate if the intervals are more than twenty-four hours, as they generally are in the case of amateur work. Indeed, it will be found that, even in the case of the baths generally supposed to be permanent, such as the acetate bath, the greater part of the gold is very liable to be precipitated, if toning is done only at somewhat long intervals of time.

FALLING OFF OF TONE IN THE FIXING BATH.

It often happens—and there are few things more aggravating—that a beautiful tone* is got in the toning bath, but disappears in the fixing bath, leaving a muddy and wretched-looking print. This is a thing the reason for which it is not always possible to give, but there are one or

two causes that are commoner than others. They have already been many times described, but, as I still see frequent requests for an explanation of the phenomenon, I imagine that they are not as generally understood as they should be.

There are, I believe, two very common causes of defect. One is insufficient washing of prints before they are toned, the other is the use of an acid fixing bath. I know that it is often recommended—at least, when certain toning baths are to be used—that the prints be washed only *slightly* before they are toned. If this be done it will be found that they will tone very readily, but it is my experience that there will *always* be a falling off of tone in the fixing bath. I prefer to wash *very* thoroughly, or to treat with a weak solution of salt, which comes to the same thing. In some cases it will be found better to use a solution of carbonate of soda instead of salt. This depends much on the quality of the paper used, and on the colour that is wished.

Common hyposulphite of soda is often distinctly acid, and, if it is, a falling off of the tone in the fixing bath is almost certain to result. Moreover, the permanency of the prints is much endangered. It should be made a rule, never to be broken, that enough ammonia be added to the fixing bath to make it smell slightly, showing that all excess of acid has been neutralised.

(To be continued.)

Line-Light Working with Compressed Gases.

THE inconvenience arising from having constantly to adjust the requisite flow of the gases, owing to the continued fall of the pressures within the cylinder, may be dispensed with. An ingeniously constructed regulator automatically reduces the gases to a uniform pressure, yielding a supply equivalent to that given by the old-fashioned bag system.

The apparatus introduced by Mr. Clarkson is not unlike the self-feeding cistern for water supply purposes, with this addition that the tank is closed over with a flexible cover to the centre of which the arm of the ball-cock is connected. The action now becomes identical, as the effect of filling it with gas under pressure through the cock, will be to distend the cover and shut off the supply. On the other hand, supposing an outlet be made, the pressure would be released, the cover tending to return to its original position, to an extent that will sufficiently open the cock to maintain the pressure corresponding to the tension exerted by the cover, for any greater or less pressure would tend to close or open it respectively. This appears simple, but when pressures varying from 5 to 1,800 lbs. per square inch have to be dealt with, it is found that efficient regulation at the desired *low* pressure can only be obtained over a less extended range of pressures. To overcome this, two regulators are combined in a neat case forming a duplex system, in order that the defects in the action of one shall be corrected by having to pass the other.

Mr. Spurge, who is joint patentee with Mr. Clarkson, demonstrates the efficiency of this arrangement by means of pressure-gauges communicating with each side of the regulator, and using the ordinary lantern fittings. Dissolving is shown to be all that could be desired, the supply being promptly adjusted in accordance with the demand, and independent of the inlet pressure, and continued satisfactorily until the pressure in the cylinder is reduced to less than one-third of an atmosphere, which for practical purposes may be considered empty. A new form of burner has been invented which can be quickly changed into a blow-through or mixed jet by the turning of a handle; a kind of tap located at the base provided with a hollow handle, when turned upwards towards the nipple, supplies the second channel for the blow-through arrangement. By turning it away, this channel is closed, and another opened into a small chamber beneath the nipple, when it fulfils the condition for the mixed jet. This appears to work well in both instances, the change being rapidly effected.

Mr. Clarkson has also made an improvement in pressure gauges,

* It has been pointed out by Emerson that the word "tone" should not be used by photographers as it is, to indicate *colour*, as it is used in quite a different sense by artists—to express something that is generally called "gradation" by photographers. It is certainly a pity that a word which has a certain sense in referring to painting should be used with another technical meaning in photography; but I do not see why the right to a technology of their own should be denied to photographers, and, moreover, I do not know that Dr. Emerson suggests any other word to replace "tone" as used by photographers. Either "colour" or "tint" might certainly be used, but would be liable to be misunderstood, as each is already used in quite a different sense from that at present conveyed by "tone" in connection with a photograph. Moreover, the word "tone" has come to be so universally used to describe the particular process that is being discussed above, that it would probably be impossible to replace it by another now.

the object being to reduce the danger in the event of fracture taking place. The spring tube is filled with water and retained by means of a flexible partition located close to the inlet; a valve is also fitted in the passage communicating with the tube. This prevents access of the gas to the interior, and minimises the quantity of gas required to actuate it, which is afterwards easily expelled on account of the position of the partition. Consequently the gauge can be employed alternately for oxygen and inflammable gases without fear of danger, and again, should the spring tube break, the valve would instantly close the passage, and arrest any further flow.

The "Bijou" light, which is another novelty, is an adaptation of the lime light for microscopic work. It consists of a minute jet in combination with a stand condenser provided with the universal motion and a novel means of clamping. It yields a beam of white light, either convergent, parallel, or divergent, in any desired direction, and is retained by simply turning of a milled head. Mr. Clarkson has also made a new departure in the method of storing limes, which is certainly compact and cleanly to use, each lime being retained in a separate compartment, enabling any particular lime to be withdrawn without impairing the safety of the remainder.

We have no doubt that Mr. Clarkson will be pleased to give further particulars; his address is 28, Bartlett's Buildings, Holborn, E.C.

Our Contemporaries at Home and Abroad.

THE *British Journal of Photography*, in an article on "Rapid Exposures," says, "Our object is to protest against the exceedingly brief exposures that are so frequently given, when much longer ones might be made, and, in every way, much better results secured. In doing this we do not gainsay the fact that at times the utmost rapidity is imperative, as, for example, when taking a flying shot from the window of a railway carriage while it is at full speed, or in taking a vessel from the deck of another going in the reverse direction, or similar work. But for general purposes we unhesitatingly say that, in nine instances out of ten, of 'instantaneous' exposures, a much longer time might have been given without sacrificing sharpness through movement, and a far better negative obtained. . . . The most common fault with instantaneous work is not a visible movement, but under-exposure, which renders them worthless in a pictorial sense. If a negative be fully exposed, even if a slight movement is perceptible, it will be a far better picture than one with intensely black shadows devoid of all detail, such as result from considerable under-exposure. A very slight trace of blurring in the moving objects would, in a sense, be an advantage rather than otherwise, as indicating life which, as in the case of the railway train cited above, is not always consistent with the utmost sharpness." Articles: "The Action of Light on Silver Chloride," "Miniature Lanterns," "Printing by Electric Light," "The Art of Retouching," "The Sizes of Photographic Plates," "What Photography will not do."

Photography, in speaking of judges at photographic exhibitions, says, "They are few in number, and the judgment they form may not always be in accord with one another, or with the general sense of the public who visit the exhibition. If every visitor were a judge, the judgment formed would certainly most agree with the public sentiment. Such a method of judging and awarding prizes has been tried, and, we believe, has not been found wanting. It may be remarked that in exhibitions of other wares than photographs jurors are usually appointed after the exhibitors have exhibited their goods. The Camera Club also make suggestions, amongst which is that retouching should be declared. Unfortunately, as a rule, retouching requires no such declaration. There is retouching and retouching, some legitimate and some quite the reverse, but it will be hard to make a boundary between the two. Our own idea is that the work of art (!) usually speaks for itself, and the judges should be competent to distinguish the limit in each particular case. It would perhaps have been better, certainly more drastic, had it have suggested that no retouching at all should be allowed." Articles: "Medical Photography," "The Crystal Palace Exhibition," "The Camera Club Conference," etc.

The *Photographic News* says, "It is impossible to exaggerate the future importance of photography in regard to astronomical observations. At no distant date the world will be spotted with observatories all filled with photographic appliances, and all collecting records of the heavens, which will be of the utmost service when compared together. The latest additions to the world's observatories comprise one at the Vatican and one recently established by the Catholic Mission at Madagascar, where a building has been erected on a hill about 4,000 feet in height, and situated a short distance to the east of Tananarivo. The first-named, so far as astronomy is concerned, will concern itself principally with celestial photography. In the second a photographic telescope for solar observations will be provided." Articles: "The Invisible Photographic Image," "The Camera Club Conference," "On Differences of Colour-Sensitiveness of Different Times," "Severe Tests of Compressed Gas Cylinders," "Photographing a Speaker's Gestures," "Mounting Lantern Slides," "Children," etc.

A 1 for April contains two chapters on "Photography," in continuation of the lessons commenced in the new volume; one is devoted to "Lenses," illustrated by cuts of Lancaster's lenses, and reproductions of two good pictures taken by one of that firm's lenses. The other chapter is devoted to "Modern Appliances," and has reproductions of numerous instantaneous pictures. The remainder of the number is well up to the mark.

Amateur Work for April contains practical articles on "The Making of a Negative Washing Tank," and on "Detective Cameras."

The *Beacon* (Chicago), in an article on "Photographic Exhibitions," says, "We have repeatedly expressed the opinion that the only way by which photography as a profession can be raised from its present position to the platform which it ought to occupy, is the elevation of photographers themselves from photographers merely to artists in the true sense of the term. Photography will never attain to its rightful position till those who practice it cease to be content with pretty, nicely finished photographs; and not only aim at, but succeed in making each photograph a picture. In the present state of matters, however, so long as a certain degree of technical success in photographic practice is so easily reached, and the general public are sufficiently ignorant of art as to be satisfied with such productions, it would be unreasonable to expect much improvement; and thus we are met face to face with the fact that photographic advancement really depends on the art education and culture of the public." Articles: "A New Printing Process," "The Washington Convention," "The Optical Lantern," "On the Dangers of Flash-light Compounds," "Photography—Historical Sketch of its Past and Present," etc.

The *Scientific American* (New York), dealing with the question of smokeless powder, illustrates the difference between its effects and those of the ordinary gunpowder, by the reproduction of two photographs, taken by Mr. Paul Gers immediately on the word "fire." In the case of the volley fired with old powder the smoke hides nearly all the men, but where the smokeless powder is used there is very little smoke, and nearly the whole of the men in the line can be seen.

Anthony's Photographic Bulletin (New York), in its "English Notes," gives the following method of orthochromatising plates: "Buy a dozen of the slowest plates you can get—transparency plates are best. Then make up the following solutions:

- | | |
|---------------------------------|----------|
| I.—Ammonia | 1 drm. |
| Distilled water | 12½ ozs. |
| This is a 1 per cent. solution. | |
| II.—Erythrosin | 7 grs. |
| Ammonia | 1 drm. |
| Distilled water | 16 ozs. |

The erythrosin should be pure; the ordinary article sold as an 'eosin dye' may or may not answer well. Wrap two or three thicknesses of brown tissue paper round your dark-room lantern, and then immerse each plate in turn for two minutes in solution I.; then drain and transfer immediately to solution II., in which each plate may be allowed also to remain two minutes. Wipe the backs of the 'dipped' or 'bathed' plates, and stand them on strips of blotting-paper in a warm place till dry, which will not take long. Such bathed plates are far more sensitive to yellow and green light than ordinary plates. The dishes should be covered as much as possible while the plates are being bathed in them, and they should be screened from light of every kind.

Unfortunately, these orthochromatic bathed plates do not keep well; so it is not wise to prepare a large number at one time; but if used within two or three weeks they will be found all right. They should be given a full exposure, and during the early stages of development (any developer may be used, but it is better to avoid ammonia) the dark-room lamp should be covered with brown tissue paper." Articles: "Washington Convention of the Photographers' Association of America," "The Amyl Acetate Lamp and the Orthochromatic Gelatine Plate," "On Control in the Density of Negatives," "Distance beyond which all Objects will be in Focus with any given Lens," "Influence of the Process of Cooling upon the Optical Properties of Glass," "A Few Notes on the Factors which regulate Exposure," "Practical Interpretations of the Law of Conjugate Foci," etc.

The *Photographic Times* (New York) says, "Mr. James W. Dalrymple, of Solsberry, Indiana, has invented a self-operating apparatus for washing prints. The washer consists of a long pan, the bottom of which slopes up each way from the centre and works on pivots. The partition extends above the sides, so that the rocking motion of the washer causes it to play back and forth under the faucet, directing the water into each end alternately. The water glides down the sides of the partition and under the prints, keeping them off the bottom, while the rocking or falling motion of the washer gives the water an oscillating or rinsing motion, thus keeping the prints separated and exposed to the washing action of the water, which is continually changing. The operator sits at its sides with the trays of toning and fixing solutions. He takes the prints from one end of the washer, puts them through the solutions and then into the other end without disturbing the washing prints. It may be operated by a very small stream from a tank or barrel, its speed being regulated by the water supply." Articles: "A Home-Made Studio," "Cyanotype Transparencies," "Major Moulthrop," "Use Long Focus Lenses, or Trim Down Your Prints," "Finding the Focal Length of a Lens," "The Evolution of the Camera," etc.

Science Notes.

It is possible that in the new substance, named taxine, which Drs. Hilger and Brande, of Erlangen, have just succeeded in obtaining from the leaves, seeds, and young shoots of the yew tree, we may find a useful developer. It is a perfectly white powder, soluble in alcohol, but much less soluble in water. Dilute acid solutions of taxine precipitate gold and platinum from their chlorides; and even very dilute solutions have this power when ammonia or caustic alkalies are added. The probable chemical formula of the new substance is $C_{37}H_{51}O_{10}N$. It unites with acids to form salts, which are readily soluble in water.

The Exhibition held by the Royal Meteorological Society illustrating the application of photography to meteorology proved to be of a most interesting character. The earliest application of photography for this purpose goes back to 1838, when Mr. T. B. Jordan, of Falmouth, used cylinders covered with sensitive paper, which revolved behind the index of a barometer, and recorded the height of the mercury by the extent of the impression produced by light upon the exposed part of the paper. It will be noted that this was done a year before either Fox Talbot or Daguerre had made known their discoveries.

Professor Pickering, of the Harvard College Observatory, U. S. A., sent his Pole-star Recorder, a most ingenious yet simple arrangement for registering the amount of cloudiness at night. It consists of a telescope lens attached to a camera, and pointed at the pole-star. Plates are inserted, and the lens uncapped every evening after sunset; and the lens is capped again before daybreak the next morning. If the night has been perfectly clear, each star near the Pole-star will have left a record of its light on the plate in the form of a semi-circle; any breaks in this semi-circle will indicate the duration of time for which those stars were obscured by clouds.

A large number of really fine photographs of clouds were sent to the exhibition, of which seventeen large prints by M. Paul Garnier were probably the finest that have been seen in this country; another set of eighty taken during the past year by Padre F. Denza at the Vatican Observatory in Rome, bear testimony to the clearness and beauty of Italian skies. Dr. Riggensbach, of Basle, sent some photographs of cirrus clouds (most

difficult subjects) taken by reflection from the clear waters of the lake of Geneva, the water having acted as a polarising mirror and extinguished the glare of the sky light. This should lead to attempts to use polarising prisms in front of our lenses when engaged in securing cloud negatives.

The photo-micrographs made by Dr. Van Heurck, which were exhibited at the last meeting of the Royal Microscopical Society, are a distinct advance on all previous work. This is due to the fact that they were produced by one of the new apochromatic one-tenth inch microscope lenses recently produced at Zeiss's optical works, Jena, under the superintendence of Dr. E. Abbé. The aperture is the highest yet attained, being 1.6 N.A., the previous highest being 1.4 N.A., showing a clear gain of twenty per cent.

The Vienna correspondent of the *Standard* telegraphs some further details regarding a discovery of a method of photography in natural colours by one Herr Veresetz, of Klausenburg, in Transylvania. It is now stated that red, orange, and bright blue can be well reproduced, but not green. Dr. Eder is said to be "much impressed by the discovery." The photographs are said to have borne three weeks' exposure to diffused light without fading. But Niepce de St. Victor accomplished quite as much as this in 1855.

According to the writer of a paper in the March number of *Cassell's Magazine* (his name is Horace B. Jones, and the editor remarks that "the author is alone responsible for the statements therein contained"), there is now in San Francisco a Chinese priest who can cause the human mind to impress its ideas, photographically, upon paper—no lens required! The eyes of the person to be experimented upon are blinded, his hair is wetted, and a thin piece of white paper is pressed upon the top of his head. He is then commanded to think of some "person, place, or thing." The paper being removed, it is thrown into a vase containing what "seemed to be water," and is then dried over a lamp. If now examined, a picture of the object thought of is seen upon the paper.

Well! with the aid of a good thinker (*i.e.*, one who would think as we wished him), a few photographs of churches, people, etc., made on plain paper and rendered invisible by soaking in a solution of mercury, bichloride, and lastly a vase full of hypo, which would "seem like water," we think the trick could be easily reproduced. It is evidently the plan devised by Herschell forty years ago, and which had a great popularity under the name of "magic photographs," about half as long since. The mercury salt renders the photograph invisible, and the hypo restores it again.

At the meeting of the Royal Astronomical Society on March 14th, Professor E. C. Pickering read a paper on a "New Class of Binary Stars." During the past two years he has obtained more than seventy photographs of the spectrum of Zeta, Ursæ Majoris (one of the stars in the "Great Bear"). On comparing these photographs, it was found that the K line appeared double at intervals of fifty-two days, beginning from the 27th of March, 1887. For several days before and after the dates when the line appears double, it presents a very hazy appearance. The other lines of the spectrum are seen with difficulty when K is hazy and double; but several of them are certainly doubled when K is double.

The only satisfactory explanation of this phenomenon is that we are here dealing with a *double star* (a "binary"), whose component stars are too close together to be seen, or to be photographed separately. The twin stars must revolve round a point midway between them; and as they do so, one star approaches and the other recedes from the earth, causing the lines of their joint spectrum to separate. Professor Pickering calculates that the distance between these two distant suns is 143,000,000 of miles, and that together they have forty times the mass of our sun.

It is rather remarkable that many years ago Captain Abney stated in a paper which he read before one of the learned societies, that by photography it would be possible to determine the rotation of the stars. It was pooh-poohed at the time, but the thing has come to pass.

It is said that the secret of the almost perfect "correction" of the lenses lately made by Zeiss, is not in the use of the new Jena glass alone, but in the employment of *fluorite*, a mineral having lower refractive and dispersive indices than any optical glass hitherto produced. The world is to be searched for fluorite, clear specimens of which are excessively rare, and agents have already been despatched to Brazil, Chili, and Peru in search of this substance.

F. G. S.

Mounting.

BY ELECTRA.

As mounting is on your *tapis* just now, perhaps you may consider a few words of mine on the subject worth a small space.

With regard to "J. C. B.'s" mode of imposing the print (still adhering to the glass) on its mount, I think few could manage his plan without at the same time depositing some of the mordant on the card, pressed out from the edges of the print.

Besides the desirable qualities enumerated for a mordant, there is the further one that when dry it should not show on the mount in case of an accidental smear or excess. I have tried various mordants both bought and made by myself, and doubt if any is equal in all respects to starch, which when properly applied is most suitable for burnishing. It has the disadvantage, however, of rendering a print difficult to unmount.

The books mostly advise that the card should be bent round convexly (with reference to the right side), to allow for the contraction of the print. This has always seemed to me faulty in theory and unsatisfactory in practice. Either the print is unduly stretched and the mordant, already congealed, is disturbed, or the bending is futile, and the card on drying will present concave curvature. I mount my prints with the card already in the curved position which I obtain by keeping it in contact with the curved side of a semi-cylinder of hard wood (cut for the purpose), and imposing the print while it is in this position, pressing and rubbing down, and then putting aside to dry, when planitude resulted. Probably a strong bottle of large and uniform calibre suitably fixed would be an improvement on my wood block. Another thing also much recommended which never commended itself to me is the plan of mounting the prints while wet. In this state they are much more liable to injury from rubbing down, and the contraction is much greater than if first dried and then merely smeared with the mordant, thus causing much inequality of tension when drying, unless, indeed, the mount is also wetted, which is often not practicable.

Lastly, with reference to touching out specks of white and defects, from which few prints are wholly free, it is difficult to get satisfactory pigments. It is desirable to have something that will not wash off in water or come away under the burnisher—a feat to which some of the "spotting mediums," mixed perhaps with turpentine or some slower drier, are much given. I generally employ the *couleurs conventionnelles* sold in Paris, as these save much trouble in matching and mixing paint, adding, when about to use, a tiny drop of coaguline or white of egg. The result, however, is not always satisfactory; if much colour is put on, it is very apt to detach itself in the burnishing process.

It has been recommended also to touch the spots painted in with bichromate of potash, but this has not proved practicable in my hands. A great drawback to the use of the "mediums," etc., sold commercially is the sedulous concealment by the dealers of their composition; so that one never knows with what one is working.

Societies' Meetings.

BATH PHOT. SOC.:—A meeting was held on the 26th ult., Mr. W. Pumphrey (President) in the chair. Messrs. Bush, Isaacs, Lee, and Wood were elected members. The Hon. Sec. (Mr. Middleton Ashman) read a communication from the Mayor of Sutton Coldfield, anent the Norway excursion promoted by the Vesey Club. The Chairman, who intends accompanying the party, detailed the arrangements provided for scientific pursuits. All vacancies, he said, were quickly taken up, but Norway could be reached quite easily during the summer months, as three or four vessels constantly plied in that service. It was announced that the summer excursions would be resumed on the 24th of April, and a Sub-Committee to make arrangements was appointed. The Chairman drew attention to *Bladud* having printed the annual report; 250 reprints were ready for distribution. He wished to correct an error as to date. The publication of Daguerre's process should read July, 1839, instead of 1840, and it would be more correct to say that the neighbourhood of Bath was the scene of Fox Talbot's experiments. A lantern exhibition of transparencies produced by members of the Society during the past session then took place; Messrs. Pumphrey,

Bristow, Peacock, Perren, Powell, Maton, Wells, and the Rev E. A. Purvis contributed slides.

BEDFORD AND DISTRICT CAMERA CLUB.—At the first general meeting of this newly formed club, held in Bedford, on March 27th, the following gentlemen were elected officers for the current year:—Honorary officers, President, Dep. Surgeon-General A. H. Beaman; Secretaries and Treasurers, Messrs. A. Kirby and C. Perrott Smith. The club has been established for the purpose of advancing the study and practice of photography amongst its members by means of periodical meetings, lectures, excursions, and exhibitions. Membership is entirely confined to amateurs, and ladies are especially invited to join.

BRIXTON AND CLAPHAM CAMERA CLUB.—The first annual meeting was held on Friday, 28th ult., the President in the chair. The report of the Committee and the statement of accounts were read and passed. The President then entertained the members with an account of some of his experiences during a recent trip to Brittany, and showed the hand-camera used on the same, explaining the action of the shutter and the general working of the apparatus. At the next meeting on April 11th, other specimens of hand-cameras will be on view. The officers for the ensuing year are as follows:—President, Mr. A. R. Dresser; Committee, Messrs. Bartrop, Coade, Gorfin, Kent, Maile, and Powell. Hon. Sec. and Treasurer, Fred W. Levett, 126, Lowden Road, Herne Hill, S.E.

DEWSBURY AM. PHOT. SOC.:—A social evening was held on the 25th ult. The President, Mr. T. G. Beaumont, presided. About two hundred members and friends assembled in response to the invitations sent out. One room was set apart for exhibits, which consisted of photographs framed and unframed, and enlargements. A number of stereoscopes, together with slides, were placed upon the tables, and much interest was taken in them. In the large room adjoining, the friends assembled to hear the musical performance. Mr. Beaumont spoke of the rapid advancement in photography, showing how the time had been considerably lessened in the taking of a photograph, remarking that it was within the recollection of many in that room when persons had to sit fifteen minutes; now they could have their portrait taken in thirty seconds, by simply standing before one of "penny-in-the-slot automatic machines." He handed round the room a specimen photograph taken by one of the machines, and it was naturally regarded as a great curiosity, and considered a very fair specimen. A collection of slides by members of the Huddersfield Society were passed through the lantern, eliciting great admiration; also specimens by R. W. Thomas and the Ilford Company. Members from several kindred societies, viz., Batley, Huddersfield, and Spen Valley, were in attendance. The evening's entertainment was a decided success.

HACKNEY PHOT. SOC.:—The *Photography* prize lantern slides were shown on Thursday, the 27th ult., to a very large number of members. Those by Messrs. A. R. Dresser, Wilson, Paul Lange, Edwards, and F. W. Evans calling for special acknowledgment. The Secretary announced a series of papers would be given by Messrs. E. J. Wall, J. Carpenter, A. R. Dresser, etc., and that a *soirée* would be held on the 24th inst., being the close of the first season of the society.

HOLBORN CAMERA CLUB.—On Friday, the 28th ult., about forty members and friends attended to inspect about eighty slides lent by the Britannia Company. At the conclusion of the lantern entertainment, the prizes won in the recent competition were presented by Mrs. Tregaskis, who kindly offered an Optimus lantern for the best set of six slides made this season. The annual general meeting will be held on the 11th inst.

LEITH AM. PHOT. ASSOC.:—The usual monthly meeting of this Association was held in the rooms, Duke Street, on 25th March, Mr. T. W. Dewar, Vice-President, in the chair. After the usual preliminary business, the Chairman delivered his opening address, in which he reviewed the work of the past session, and advocated the still more strenuous pursuit of the higher grades of art, deprecated the following after instantaneous and hand-camera work to the utter disregard of securing carefully-composed pictures, and urged, during the coming season, the desirability of foregoing those "snap shots" which only afforded a transient pleasure, in favour of what was most beautiful and pictorial in nature. Specimens of the new Kallotype printing process and Griffith's detective camera were exhibited. The Secretary thereafter read some notes from the late Cuthbert Bede's book, "Photographic Pleasures," with lantern transparencies of the illustrations, kindly lent for the occasion by Mr. W. Long, jun.,

F.C.S., President of the Glasgow Photographic Society. The membership card for the session, designed by Mr. W. M. Smith, and photographed by Mr. A. D. Guthrie, was then issued to the members.

LIVERPOOL AM: PHOT: ASSOC:—The third ordinary meeting of the twenty-seventh session was held in the Association's club-rooms, 3, Lord Street, on Thursday evening, 27th March. The President, Mr. Paul Lange, occupied the chair, and there was a large attendance. The President announced that the new Boston slides entitled "The White Mountains," and Mr. John Hargreaves' lecture on the completed survey of the "Hundred of Wirral," would take place in the City Hall, Eberle Street, on Monday, 14th April. Mr. Fred Evans was then called upon to explain the arrangements that were being made concerning the Convention of Photographic Societies of Great Britain at Chester in the last week of June, when, amongst other attractions, special facilities not hitherto allowed to amateurs would be granted by the Duke of Westminster for photographing both the exterior and interior of Eaton Hall. The principal business of the evening was the contemplated photographic exhibition of 1891. The President entered very fully into the particulars of the matter: that it should take place in the spring of 1891 for the term of one month, that the offer of the Library and Arts Committee of the Corporation of Liverpool, be accepted for the use of the same splendid apartments in the Walker Art Gallery as used in 1888. The members unanimously decided that such an exhibition should be held. The meeting concluded with an interesting exhibition of photographic novelties (of which there were a large collection).

NEWCASTLE (STAFFS) AND DISTRICT AM: PHOT: SOC:—At a meeting held in the Town-hall on Thursday, March 27th, after a discussion which lasted a considerable time, it was decided not to have an excursion at present. Other little business matters were attended to, followed by Mr. Taylor's demonstration of Eastman's stripping films, which proved very interesting and instructive. A hearty vote of thanks was then accorded to Mr. Taylor for his demonstration.

NORTH MIDDLESEX PHOT: CLUB.—An outing of the above Club has been arranged for Easter Monday, to Welwyn, train leaving Finsbury Park (G.N.R.) at 10.45. Any interested in photography are invited to join. On Monday, the 31st ult., Mr. Thos. F. Smith, F.R.M.S., delivered a lecture on "Micro-Photography," illustrating it by means of lantern slides, and showing the method of making the same. Both botanical and histological slides of great interest were shown, and attested to the care which the lecturer must have given to his subject, some of them being enlarged 2,000 diameters.

PHOT: SOC: OF IRELAND.—At a meeting of this Society, held on the 24th ult., Mr. J. Joly, M.A., gave a lantern exhibition of his photographs of the Swiss Alps. The slides were in every respect excellent, some of the cloud effects being really fine, and the rendering of the detail in pictures of great contrast, such as snow-clad mountains with very dark foregrounds, evidenced careful and judicious development, while the number of plates exposed spoke volumes for the amount of muscular energy expended during the tour. On Thursday, the 27th, the monthly technical meeting was held, Dr. J. A. Scott, M.B., Vice-President, in the chair. After two new members had been ballotted for, the evening was devoted to exhibiting such lantern slides as the members had brought down with them, and some very beautiful pictures were put upon the screen.

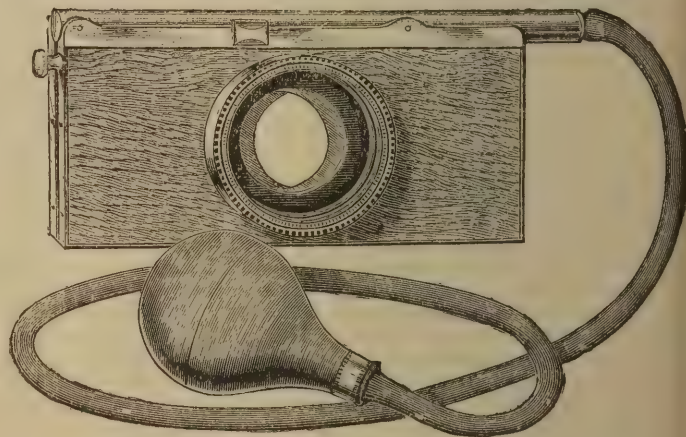
SHEFFIELD CAMERA CLUB.—At the ordinary meeting of the above Society, held on the 26th ult., Dr. J. A. Manton read an interesting paper entitled, "The Chemistry of Every-day Photography," profusely illustrated with experiments, diagrams, and blackboard illustrations. The doctor concluded his paper by giving a pedigree of photography, in which each important advance in this wonderful art was discussed and explained.

SOUTHSEA AM: PHOT: SOC: gave a public lantern exhibition on the 26th ult. The entertainment was in every way a pronounced success. A fine collection of pictures, representing Canadian, Scotch, and English scenery, with various genre studies and some very fine views of cathedrals, were thrown on the screen by Lieut. Gladstone, R.N., Lieut. Cobb, R.N., giving a short description of each picture. The slides were entirely the work of members of the society, prominent among whom were Captain Lamb, Lieut. Gladstone, Dr. Wardrop, Messrs. Thornton, Leventhorpe, etc. Incidental music and songs made the pleasant evening pass too rapidly.

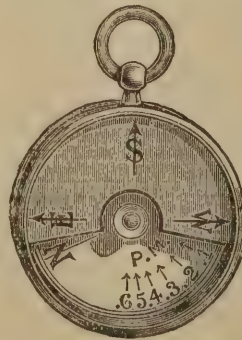
WEST SURREY AM: PHOT: SOC:—The second annual exhibition was held on the 26th, 27th, and 28th ult. Some hundreds of photographs, by various processes, were displayed upon screens round the hall; and two shows of lantern slides by the oxy-hydrogen light were given each evening, and there was a large attendance. A large number of the slides were the work of members and friends; the last evening being mostly taken up with those kindly lent by the Editors of the *AMATEUR PHOTOGRAPHER* and *Photography*. The indefatigable Mr. Miall was present each evening, extolling the merits of the Facile camera; and a capital collection of cameras. Haes' Perfection lamp, and several novelties were sent down by Messrs. Marion and Co. In addition to the arctic series of slides sent by Messrs. Fry and Co., for exhibition on the screen, that firm had on the table a pretty display of photographs on celluloid films, which were much admired. Mr. Gale sent six splendid photographs, including his well-known "Sleepy Hollow." Mr. Davison had a fine collection of platinotypes. Miss Winsford had a pretty little collection, principally local views, bits in Battersea Park, etc.; Mr. Winsford, several views, mostly of Scotch scenery; and some fine alpha paper prints were shown by Mr. Faulkner. Enlargements were shown by Messrs. Spencer, Swingle, Smith, Martin, and Borley. Hand-camera work was represented by Mr. Graham, who also had a large number of aristotype prints.

Apparatus.

We have received from the Blackfriars Photographic Company, Surrey Row, Blackfriars, a very excellent shutter, which is called an "Automatic Repeating Shutter." The shutter proper is made of two discs of metal, which open and expose the full aperture of



the lens, and then traverse over each other and repeat the action as many times as the pneumatic ball is squeezed. If the ball is left inflated, and the pin at the top of the shutter drawn out, a time exposure of any duration may be given, lasting until a second pressure of the ball is made, when the shutter at once closes. We have not been favoured with the price of this shutter, but feel certain that if reasonable it must have a very large sale. The milled ring round the opening actuates a strip of metal which forms an adapter with a play of nearly one-eighth of an inch all round—a very great desideratum.



Another useful little apparatus, the invention of M. Decoudun, is also sent us by the same firm, in the form of a pocket compass. The operator has to observe first the direction in which the light falls upon a given object, so that it is fully lighted, and point the handle of the compass to the object, and he will see on the floating disc the hour of the day at which the light will fall directly or obliquely, and all else he has to do is, in the words of Captain Cuttle, "When found to make a note of."

To Correspondents.

THE insertion of **QUERIES** and **ANSWERS** is attended with much labour, and it is requested that the questions asked and the answers given shall be short and to the point. No charge is made.

All communications for the columns are to be addressed to **The Editor, "Amateur Photographer,"** 1, Creed Lane, Ludgate Hill, London, E.C.

RULES

1. Write clearly and distinctly on one side of the paper only.
2. Write each query or answer on a separate sheet of paper.
3. Write the name and address legibly on the back of each communication, and sign all Queries and Answers with name or *nom de plume*.
4. All matters for these columns **MUST** be received by **TUESDAY MORNING'S POST**.
5. The Editors do not undertake to answer questions by post.
6. In answering Queries correspondents are requested to mention, in every instance, the number and full title of the query referred to.

QUERIES.

361. **Intensifier.**—Wishing to intensify a quarter-plate negative, I took "Radiation's" formula, mentioned in the issue of December 20th, 1889. I accordingly had the solutions made up by a chemist. I put $\frac{1}{2}$ oz. of each solution in a separate measure, and added by degrees No. 2 to No. 1. It turned to a yellow feathery substance, and as it did not dissolve, I added more of No. 2, when a black precipitate formed at the bottom of the glass, which would not dissolve, although I added No. 2 till the measure registered 3 ozs. Would "Radiation" try and explain the cause and oblige?—A BEGINNER.

362. **Death Pot.**—Should be glad to hear the best method of destroying life of insects, etc., for microscopical purposes?—PHOTO-MICROGRAPHER.

363. **Swinden and Earp's Camera.**—Will any kind reader give their opinion of Swinden and Earp's detective; do the plates get fogged in any way when changing to chamber, or by time exposures, because I notice the rays from lens pass over the exposed plates, and sometimes I notice the plates do not always fall into chamber with the paper backing side up; and is the lens a good one?—DETECTIVE.

364. **Quick Printing Paper.**—Would some amateur kindly relate briefly his opinion and experience of Marion's quick printing paper as a developing paper? Are the prints equal in brilliance and colour to silver prints?—ELECTRA.

365. **Willesden Paper.**—Would be glad to know where Willesden paper can be obtained, and if sold in small quantities?—H. D.

366. **Loan of Negatives.**—Will any amateur kindly lend me a few quarter-plate negatives to make lantern slides from? I will take great care of them, and pay all expenses.—W. J. HINCKLEY (Address with Editor).

367. **Hydroquinone.**—Ilford. Will anyone kindly tell me the proper way to mix the above? I made it up as follows:—

Johnson's hydroquinone ... 160 grs.
Sulphate of soda ... 2 ozs. avoird.
Bromide of potassium ... 30 grs.

putting the lot into a bottle, and making up to 20 ozs. with hot (not boiling) tap water. This solution has since turned brown; and shall be obliged if any amateur will give me the reasons why, and how to avoid this in future, as I am anxious to use this developer in place of pyro.—NANKI-POO.

368. **Perspective.**—Am using Ross' R.R. lens, and Wratten's instantaneous plates. Get good sharp definition on screen of hills nine or ten miles distant. Expose in fair light 3-4 seconds, working at $f/22$. On developing (rather under-exposed) detail on negative only includes half distance. What is aerial perspective of this lens, or why do I fail to get on negative detail shown on focussing screen?—FLANGE.

369. **Choice of Shutter.**—Will someone kindly advise me as to purchase of shutter for all-round work? Is the Norden flap shutter a good one? Also please give opinion of Gem pneumatic shutter and Lylar's window shutter?—ARGENT NITRAS.

370. **Finder.**—I wish to make a detective camera by placing my quarter-plate Instantograph in a box, and using my half-plate rectilinear lens. Can anyone inform me how to make a cheap finder, to show identical view, and to be unobtrusive? The lens is $\frac{1}{8}$ in. focus.—MERC.

371. **Exposure for Bromide Paper.**—I saw 8 seconds suggested as the approximate exposure in enlarging from quarter-plate to 10 by 8 by artificial light. I enlarge by daylight, and have to give 7 or 8 minutes for the same sizes, using rapid paper. How is this?—J. W. D.

372. **Toning Trouble.**—About ten days ago I mixed a combined toning and fixing bath, and used it for one batch of prints. It seems now to have lost its toning properties, and there is a darkish sediment. Is this the gold? and if so, how shall I collect it for re-use?—J. W. D.

373. **Hand-Camera.**—Have made a hand-camera, and the lens works at $f/3$ (a fixed s.o.p.), and I find considerable diffusion of focus at edges. If I insert a stop, say $f/10$, this would doubtless sharpen the focus at edges; but would $f/10$ be a big enough stop for very quick exposures, such as a hand-camera demands? Please name best developer for rapid work.—J. W. D.

374. **Reflex Camera.**—Can anyone kindly inform me on the Lumann's Reflex camera? Is it a practical one? Does it give good results?—GIULIO.

375. **Plate-Washer.**—I have got a plate-washer running at the rate of 1 gallon per minute. Will some reader tell me how long it will take to remove every trace of hypos from the plates?—T. LAKER.

376. **Argentine Paper.**—Will some reader of the AMATEUR PHOTOGRAPHER kindly tell me how I can obtain brown tones on Fry's argentine paper?—T. LAKER.

377. **Multum-in-Parvo.**—Can anyone advise me as regards good work being done with the above (Lancaster's), by flash-light also?—ORGANIST.

378. **Hockin's Lens.**—Would someone oblige by saying if they are good, and found them so whilst working with them, especially the R.R. and W.A., also single W.A.? What aperture does the R.R. work at, and is it as good as Optimus R.R.?—ORGANIST.

QUERIES UNANSWERED.

Feb. 21st.—Nos. 3471, 3476, 3478, 4391, 3493, 3404.
28th.—No. 3517.

Mar. 7th.—Nos. 3528, 3530, 3531, 3542, 3551, 3554, 3556.

14th.—Nos. 3561, 3566.

21st.—Nos. 3585, 3587, 3593, 3595, 3596, 3601, 3610, 3612, 3613, 3614.

28th.—Nos. 3619, 3620, 3628, 3629, 3630, 3633, 3634, 3636, 3637, 3638, 3640, 3641, 3643, 3650, 3652, 3653, 3655.

ANSWERS.

3559. **France and Italy.**—After many years' residences in Italy, allow me to inform A. B. Price and A. J. Cross that in the two provinces of Naples and Rome (presumably, therefore, throughout the kingdom) a photographing order, to be obtained through the British Consul, is absolutely necessary for work in any of the ruins or monuments which are under Government supervision, i.e., Pompeii, Herculaneum, Palace of the Cæsars, Colosseum. Being an amateur worker, I speak from personal experience, and have one of the orders in question for the province of Rome. Since writing the above, I find, at page 608 of the "British Journal Photographic Almanac" for 1889, that Messrs. Robinson and Thompson remark: "For photographing ruins of Rome they will have to show passport, and get permission at 'office for preservation of ancient monuments,' situate near the Forum, but interiors of churches at various places. For Pompeii, permission at Naples Museum, also for Praetium. No difficulty about exteriors of buildings at Rome, Venice, etc., if not ruins."—ALPHA-BETA.

3579. **Removing Stains from Steel Engravings.**—A very weak solution of chloride of lime, in which engravings are soaked, will usually remove all stains, and whiten the paper. Try with as much of the chloride as will rest on a sixpence in a quart of water.—ALPHA.

3592. **St. Heliers, Jersey.**—There are many photographers in Jersey; Norman, of Belmont Road, among others, is always ready to oblige tourists.—ALPHA.

3600. **Lantern Slides.**—I prefer Thomas' plates for lantern slides, and the developer indicated in the instructions, but this may be a matter of taste; many like the Ilford. I clean all my covering-glasses with soap water, and finish with methylated.—ALPHA.

3605. **Light Camera.**—Get one of Underwood's half-plate Instantos, or, better still, their President, and it will answer your purpose well. I can recommend the latter, as I have one.—PHONO.

3608. **Perfection Lamp.**—I never use any other, and, with the usual precaution of not allowing the direct light to fall on the plate until the image is fairly well out, never have a trace of fog when using either drop shutter or isochromatic plates.—THE INVENTOR.

3621. **Lens.**—A quarter-plate $4\frac{1}{2}$ focus lens will take half-plate pictures, if well stopped down. Of course the results, especially towards the margins, will not equal a half-plate lens.—HUCK FINN.

3621. **Lens.**—If a doublet lens, screw off one combination, and you will have a good half-plate single landscape lens of 9 in. focus.—J. A. SINCLAIR.

3621. **Lens.**—It all depends on the quality of the lens. You cannot tell without trying, but the chances are you will not be able to use a quarter-plate lens with a half-plate camera. You can never do so with a cheap lens, but you possibly may be able to do so with a Ross or any lens of that standard.—W. A. J. CROKE.

3621. **Lens.**—A quarter-plate R.R. lens by a good maker, such as Wray, will cover a half-plate with a moderate size stop, say $f/16$, but then the querist must remember that in this case the lens will act as a wide-angle one.—P. K.

3622. **R.R. Lens.**—Hockin and Co. supply a quarter-plate R.R. lens at a moderate price, which I think would suit you. Remove the flange belonging to the Merveilleux lens, and fix the flange which is supplied with the above-mentioned lens, in its place.—P. K.

3622. **R.R. Lens.**—Of course, any lens will fit your camera. You may possibly have to get a new front made, but that is not an expensive business.—W. A. J. CROKE.

3622. **R.R. Lens.**—I don't know whether you can buy an R.R. lens to fit your Merveilleux lens flange or not; if you cannot buy a new R.R. lens to fit, fit the new flange on to the front of the camera, having previously taken out the flange of your old lens; if the new flange is too small for the hole left by the flange of the old lens, get a carpenter to insert a piece of wood in the hole, and fasten your new lens on to it.—HUCK FINN.

3623. **Enlarging Lantern.**—Size of good enlargement depends on detail in your negative. In any case substitute your camera lens for the lantern lens, and stop down for even sharpness.—J. A. SINCLAIR.

3624. **Yellow Stain with Hydroquinone.**—To prevent this, give longer exposure. It is produced by prolonged development in a strong solution.—J. A. SINCLAIR.

3624. **Yellow Stain with Hydroquinone.**—This yellow stain nearly always occurs with the hydroquinone developer when used to develop bromides. But I always clear the print in a solution of citric acid and alum, both before and after fixing. For a simple formula see "Fallowfield's Annual." This entirely removes any deposit or stains.—W. A. J. CROKE.

3624. **Yellow Stain with Hydroquinone.**—See letter to the Editor on this subject, in this week's number.—W. E. REYNOLDS.

3625. **Printing for Amateurs.**—The Editor of this paper some time ago applied for apparatus for some homes where the work you require is most satisfactorily performed at a very modest figure; the homes were, I believe, at Earningham. I should advise your writing to him direct, as he will doubtless be glad to give you full particulars.—W. A. J. CROKE.

3625. **Printing for Amateurs.**—I find Elderfield, photographer, South Street, Farnham, tones and fixes my half-plate prints very well, at about 1s. 3d. a dozen; he would, doubtless, print also from amateur negatives.—L. R.

3625. **Printing for Amateurs.**—If "Poor Chinese" writes me, I will send him address of a trustworthy firm and cheap.—ALPERUM (address with Editor).

3625. **Printing for Amateurs.**—Hinton and Co., 35, Bedford Street, W.C., I think would suit you. They charge 2s. 6d. per dozen for ordinary silver printing, quarter-plate size. What I have seen of the work has been very good.—EDYLLION.

3626. **Quick Printing.**—The Platinotype process will be the very thing for you; address, 29, Southampton Row, W.C.—P. K.

3626. **Quick Printing.**—"Poor Chinese" should try the ferro-cyanide paper to be obtained from Mr. J. R. Gotz, 19, Buckingham Street, Strand, London, W., at 17s. per twenty yards roll, 2 $\frac{1}{2}$ inches wide (No. 15). This will give him a good proof from a negative in bright sunshine in from one to two minutes' exposure, and only requires to be put in an ordinary bath of hyposulphite of soda for a few minutes, when he will have a good sepia print on a duck-egg-green ground. Printing in shade from five to ten minutes. I enclose specimen. They are permanent as far as I have tried them. The paper keeps well.—A. P. G. D.

3626. **Quick Printing.**—This "Heathen Chinese" evidently sighs for impossibilities. Cannot recommend him anything quicker than bromide paper, developed with hydroquinone.—J. A. SINCLAIR.

3626. **Quick Printing.**—Try the Pizighel platina printing process; some obtain very good results with it; you might also try the sepia printing process; sepia paper can be bought at Sharp and Hitchmough's, 101, Dale Street, Liverpool, price 7d., 9d., 1s. 3d., and 2s. 6d. per dozen.—HUCK FINN.

3626. **Quick Printing.**—I think Pizighel's platinum paper is the one that comes nearest to what you want. I should think, of nearly all dealers.—EDYLLION.

3627. **Collodio-Bromide.**—The only absolutely certain way is to previously coat the plate with a two grain solution of gelatine as a substratum.—EDYLLION.

3627. **Collodio-Bromide.**—I shall be pleased to help "R. B." if he will write to me.—MEDICUS (address with Editor).

3631. **Aperture of Lens.**—Using a half-plate lens on a quarter-plate would not alter the working aper

ture of the lens. You will require a long-extension bellows, and will have to go further back from objects than you would if you were using the lens for a half-plate camera.—P. K.

3632. Sunk Mounts for Enlargements.—You can buy the mounts you require at J. Fallowfield's, 35 and 36, Lower Marsh, Lambeth, S.E. Size of board, 15 by 12; size of tint, 8½ by 16½; price, 19s. per hundred. Size of board, 21½ by 17½; size of tint, 15 by 12; price 48s. per hundred; or size of board, 25 by 19; size of tint, 18 by 14; 56s. per hundred. I suppose you mean that your enlargement, without cutting down at all, is 15 by 12. If so, mount them on the 18 by 14 tint. I do not know whether you can buy the mounts in smaller quantity or not.—HUCK FINN.

3632. Sunk Mounts for Enlargements.—Write to Fox and Co., Little Britain, Aldersgate Street, London, for list. They are expensive, but very good for high-class work.—J. A. SINCLAIR.

3632. Sunk Mounts for Enlargements.—Messrs. Fallowfield, of Lower Marsh, Lambeth, make a speciality of the above. They will give you full particulars and prices.—W. A. J. CROKE.

3635. Toning.—I tone my prints according to Dr. Kibbler's process, first with gold and then with hypo and acetate lead; and I find best results are obtained with fresh hypo.—P. K.

3635. Toning.—The hypo may be kept in solution, but the acetate of lead must be added to fixing bath immediately before using.—W. A. K.

3639. Focusing.—I would suggest an adapter with coarse external screw in a large flange, and internal screw to take lens. A hand or lever attached to this would read against a brass graduated strip or dial. This is an arrangement I have in view for a projected hand-camera.—R. W. B.

3642. Paper Negatives.—I have used Morgan and Kidd's ordinary smooth enlarging paper with thorough success. With f/24 on a well lit and fairly open view 15 to 20 I found about the right exposure. Developer: Pyro and sulphate of soda, with ammonia and bromide ammonium. No clearing bath is necessary, but a squeegee is a great help in washing. The best results are obtained by drying on a sheet of glass previously coated with plain collodion, and then oiling the back with vaseline. This last is not necessary, but it produces decidedly the best results.—EDYLLION.

3644. Torquay.—B. B. will find every requisite at Torquay in the way of photography. Cox and Durant, of the Victoria Parade, have a dark-room for amateurs, at a nominal charge of 6d., and Mr. Bathe, chemist, has also one, I believe. The latter keeps everything in the way of chemicals and plates, and is most obliging. Mr. Torzer, of Fleet Street, and Horton and Co., of Sozwood Road, also deal in photographic goods, so "B. B." need not be in want of anything.—N. M. H.

3644. Torquay.—All photographic requisites can be obtained of W. Bathe, 10, Abbey Road; he would doubtless lend you his dark-room, or would tell you of one in the neighbourhood.—W. A. J. CROKE.

3645. Spring Carrier.—I know of no cheap spring carrier for a Safety. I always carry my quarter-plate camera slung on straps between the handle bar and the seat; it swings easily, and does not seem to damage the plates or slides.—HUCK FINN.

3646. Lens.—If you have Shew's hand-camera I should certainly advise you to get Shew's lens; it is a splendid instrument, and has a shutter working between the combinations. Taylor makes some splendid hand-camera lenses, also with shutters attached.—HUCK FINN.

3646. Lens.—I can strongly recommend Wray's quarter-plate R.R., which works at full aperture, viz., f/5.65.—P. K.

3647. Toning.—The following bath I think will suit you: Acetate of soda, 20 grs.; chloride of gold, 1 gr.; water, 8 ozs.—P. K.

3648. Oil Paintings.—Edwards' Isochromatic plates are splendid for this purpose. If contrasts of yellow and blue in painting, use yellow screen in front of lens to obtain correct tone.—J. A. SINCLAIR.

3651. Eikonogen.—I have found no difficulty in this, except with Ilford plates. I cannot account for this.—R. W. B.

3654. Lens.—W. Pollock evidently wants to know how to find focal length of his lens, and value of the stops. Sufficiently accurate for all practical purposes is the following simple method:—Focus on ground-glass some object over 30 ft. from camera, and measure distance between ground-glass and diaphragm slot (or if single lens to the lens itself). This is roughly the equivalent focus, which, for example, we presume is 8 ins. The diameter of stop divided into the focal length gives value of the stop. Thus, supposing the stop is 1 in. in diameter, its value would be f/8; if ½ in. in diameter f/16, and so on.—J. A. SINCLAIR.

3657. Oil Light for Lantern.—Carefully trim the lamp; use the best oil, and for each pint add two of Naylor's paraffin carbons. These render the light much whiter, and help to prevent smoke. It is also claimed that they reduce danger of explosion. They can be obtained of T. Naylor, 15, Denmark Place, Charing Cross Road.—EDYLLION.

3658. Magnesium Light.—Your query is answered in Mr. Hepworth's articles on above subject in last number.—P. K.

3659. Detective Cameras.—If "Onyx" will com-

municate with R. W. B. (address with Editor), he will be willing, if possible, to assist him.—R. W. B.

3660. Hand-Camera, Lens, and Tripod.—I should certainly advise you to get Shew's Eclipse hand-camera. I believe the firm are making a roller-slide for their camera, but if it is not yet out you can have any of the roller-slides adapted. The lens supplied with their quarter-plate camera is, I believe, of 4½ ins. focus, and is a capital little article. Get one of the four-fold camera stands, Watson's or any other good makers; if you want a very light and unobtrusive stand, get the walking-stick stand: I cannot say whether it is of much good or not, as I have not tried it.—HUCK FINN.

EDITORIAL.

NOTE.—Anyone requiring an opinion upon photographic apparatus, plates, etc., must give a number or initial for identification, as in no case will makers' names be inserted in this column.

SPECIAL NOTICE.—We are very pleased to find that replies in this column are so much appreciated, but we should be very grateful if those requiring advice would send their letters to us BEFORE TUESDAY MORNING'S post if possible. The time occupied in replying in this column is very considerable, and owing to the often late receipt of letters, many matters have to be left over each week. This we much regret.—ED:AM:PHOT:

A. W. GOTTLEB.—Many thanks for the opportunity of perusing Mr. Edwards' letter.

REV. W. BENNETT.—Our publishers have submitted your letter. You are, of course, a free agent, although we much regret that you should have used expressions towards us that are not in keeping with that charity which "suffereth long and is kind."

A. B. READER.—Omitted by an oversight. Our "District Editor," Mr. J. D. Eastham, will in future attend your meetings, and we shall hope to be able to give yours and other societies in the district more attention.

W. A. SOUTHWELL.—We are much obliged, and will register your "Dark-Room."

GEO. KEMP.—We have your card re "Dark-Room," for which many thanks. The particulars shall be noted.

H. ARMISTEAD.—Your room will be included in our list, also the other particulars.

F. W. LEVETT.—Matter came too late for the 31st of March REPORTER.

WALTER J. DAVIES.—You will note that we refer to your album in another column. You must give a little more study to the technique before your photographs are up to even "Monthly Competition" form. When next in town, call upon us.

S. C. HOVENDE.—The paper is most likely stale and damp. Get some fresh paper, and let us know the result. See also that your toning bath is carefully made up in accordance with a good formula. Be sure you thoroughly wash your prints before placing in the toning bath. We shall be glad to hear that you have overcome your difficulties.

B. FURNEAUX.—Lens, shutter, and camera case received.

A. CROCKFORD.—We cannot trace the "Watch Camera" your letter has reference to.

MRS. CULVERHOUSE.—A very interesting summary of the paper is given in the PHOTOGRAPHIC SOCIETIES' REPORTER for March 31st. We thank you for kindly calling attention to the subject.

G. FAIDO (Venezia).—Your query is inserted, and we have written you a few lines.

CAPTAIN.—The first is an excellent hand-camera, and will, we think, answer your purpose with R.R. lens. The second is perhaps better finished, and has some advantages; but work done with either should be equally good. We do not consider the camera named in postscript is equal to either of the others. The shutter mentioned is so far free from vibration that what little does take place is after exposure.

E. B. GREENWAY.—We know the real maker's camera, and unhesitatingly say it is one of the best in the market. We have never seen a camera made by the "imitating firm," and cannot, therefore, advise you as to the work of the "exact copy." We do not particularly care for the plates, although some workers speak very highly of them. Many thanks for your complimentary opinion of our efforts.

G. L. W.—We place them in the following order: 4, 2, and 3.

NOVICE.—Our advice would be that you buy either E or A; the latter is very compact, but you must either use a roller-slide, changing-box, or double backs. We, therefore, should advise E.

FRANCAIS.—We will look up a dark-room. (2) You only name one, which we cannot recommend. (3) You would find a changing-bag of service, and would then be independent of "dark-rooms." Very pleased to see you and your prints. After next week our "At Home" days will be Mondays from 2 to 5 p.m. and Thursdays from 11 a.m. to 1 p.m.

PICKWICK.—Your print, No. 1, is a very poorly composed picture, and is quite devoid of interest. No. 2, a good photograph technically, but the cutting off of the trees takes away from the beauty of the landscape; you might have reduced your foreground, and so have secured the glen with the

trees, assisting to make up a picture. No. 3 is better, and makes a very fair picture of subjects really possessing but little picturesqueness in themselves. It is certainly your best, and a series of, say, 4, taken along the stream, if up to the same quality, might be worth entering at one of the exhibitions, but they are not prize pictures by a long way. Due notice will be given, some weeks yet. A and C are both good shutters; in fact, all you mention have good points, and you will be safe in buying any one of them.

MALICE (Nice).—The entry forms are sent on to you; you could send the photograph to the next competition, "Genre, or Figure Study." If you will send us some prints we will gladly criticise them.

TREBLE X.—You had better write to the editor; in our copy the figures are quite unintelligible. It would be rather "bad form" to publish your letter, as it reflects upon the manner in which contemporary literature is turned out. If you are coming to town, shall be glad to see you.

W. E. DOBSON.—The No. 2 lens would best suit your purpose; very excellent cheap lenses are sent out by the firm.

F. M.—If you had bought the PHOTOGRAPHIC SOCIETIES' REPORTER, and referred to the "Official Announcement" column, you would have found the address of the Hon. Sec. of the West London Photographic Society—Mr. John A. Hodges, 87, Chancery Lane, E.C. Write to him, and he will give you all particulars.

E. G. RICHARDSON.—In order to prevent the black deposit or precipitate, keep the toning bath from the light. If the precipitation has occurred, the bath is practically useless. To renovate the old baths, see Wall's "Dictionary," page 200.

JOHN CAMPBELL.—Your photographs are charming. In the moonlight effects the moon is rather too "pronounced," and the reflection is rather unreal. The clouds are really perfect. We shall hope to see your work in our competition. The harbour scene and two landscapes are really very fine, and quite up to exhibition standard.

LEONARD BROWN.—Point your lens full at the sun. There are some printing-out papers sold which give the effect. We should not advise your using the dye, but you might experiment, and let us see the result.

A. CORNISH (Quimper).—We have inserted sufficient of your letter to secure an answer from the patentee or someone qualified to answer.

E. LLOYD EDWARDS.—You have received our advice as to hand-cameras. Your friend, Mr. J. O. Bury, is more than satisfied with the instrument we recommended you, and the results he has sent us are admirable. We have nothing to say in favour of those named. A is complicated and, certainly in our opinion not as serviceable as the one already mentioned. B, unless much improved, is roughly made. C we have not tried. The films you name are very frequently spotty and unreliable, and are certainly not "worth taking up instead of glass." The lenses you mention are very good, and will give you excellent results.

OLAUDIUS.—Yes, but it will be some weeks hence. They are at your service. A is a capital shutter, and so is C. The R.R. lens is a good one, and should give you a good instantaneous picture working at f/8.

CHAS. J. WILKIE.—Very many thanks for the capital batch of prints for our "Hospital Albums."

GEO. H. MANT.—Of the two we should advise No. 1, with the lens named. No. 2 is complicated.

OSCELE H. PALMER.—No lantern-slides will be returned until after the Easter holidays. We see callers only on certain days, or by appointment. The slides were at the Palace.

MUWA.—If a hand-camera, e; if a detective camera, b; if with roller-slide, or if to carry in the pocket, a; if to use with double backs, d. All these are very first-class instruments. Could you not support the movement on foot to form an amateur photographic society in Edinburgh?

E. C. L.—No. 2 "AMATEUR PHOTOGRAPHER'S Library" is now ready, and on sale at all photographic dealers, and should be on sale at the Army and Navy Stores.

W. B. FARNHAM.—We cannot undertake to report upon bicycles or any other goods unless they are sent to us by the seller.

E. G.—Unhesitatingly we advise No. 1, one of the best cameras made. A, a most admirable apparatus. We should advise R.R. lens. F: the lens you name is one of the best detectives in the market. The R.S. that you have should answer your purpose. If you like to have any of the goods you select sent to us, we will examine them and report to you.

T. R. HUBBACK.—The work will be commenced after Easter, but it will be some weeks before the number is issued. Entry forms are at your service or any of your friends, and we shall be pleased to send them.

P. J. F.—We have never worked with the camera you name; if you like the maker to send it to us for inspection, we will report upon it on our usual terms. We strongly advise the taking up of small work, and are always ready to encourage lantern-slide making.

W. J. D. WALKER.—We have complied with your request.

DUNOLIN.—A: Although advertised somewhat persistently, we believe it is a fact that this camera has never been on sale; we know nothing of it, except from the advertised description, therefore cannot advise you to purchase. Even supposing you could procure the apparatus, we have no knowledge of any firm in England having them on sale. B: Another camera which may be known in France, but is quite unknown in England. (2) We should not advise you to use them for hand-camera work. (3) It is unfortunate, but really we can give you no information about the enlarging apparatus. Why not write to the maker?

GROVE.—The cameras A or B are very good for the money. We should advise lens D. You can quite rely upon goods bought through our Sale and Exchange columns if sent to us and purchased subject to our report. Certainly try an R.R. lens; write to makers for prices. Very few makers' lenses follow as far as fittings, but can be used in any camera with an adapter, or a new front can be made. The E lens does good work, but is not so good as D.

A. E. LAKE.—For all-round work, No. 1, a most excellent lens.

CHARBONIER.—No. 2. A: The R.R. lens will give you excellent definition. B: Very effective shutter. C: Plates are in perfect register. D: No chance of scratching plates. E: Quite easy and reliable. F: A most useful apparatus.

A. F. M. POWELL.—Your suggestions have not lain dormant. See "Our Views" this week. We could not give up the space in this paper to publish the names, addresses, etc., of photographic societies, but they are fully set out, and the arrangements for their meetings, in the PHOTOGRAPHIC SOCIETIES' REPORTER. We will write you shortly. Could you not help in the formation of an amateur photographic society for Edinburgh?

MELLING.—We saw No. 1 last year, but have had no opportunity of working with it. We have asked the maker to send us one for inspection. The lens is probably a French one. No. 2: We have had no opportunity of testing the lens, or using the camera. No. 3: We never name apparatus in this column.

MOUNTANT.—We will work out the idea.

Sale and Exchange.

RULES.—Fourpence for twelve words or less, and a penny for every additional three words, must be enclosed with each advertisement, together with the name and address of the sender, which must be paid for, and sent to Hazell, Watson, and Viney, Ltd., 1, Creed Lane, Ludgate Hill. Halfpenny stamp preferred. A single figure, or group of figures undivided by letter, space, stop, or words, counts as one word; compound words count as two words.

Cameras, etc.—Whole-plate camera, 3 backs, best quality; £6 10s.—Pellatt, 81, Bishopsgate Street, E.C.

Half-plate Instanto camera, two double slides, three-fold tripod, Universal head, 50s.; quarter Instantograph camera, part exchange. — 2, Gordon Road, Hastings.

Kodak, No. 1, new last December, latest improvements, self-capping shutter and transparent (non-stripping) film for 100 exposures, carrying case, manual, etc., complete and perfect as when new; will deposit with Editor if desired; price £4. — J. Morson, North Road, Durham.

Camera Case.—Camera case, Lancaster's waterproof, stiff leather bound, new, 11 by 6 by 11; 8s. 6d.; approval 6 stamps. — 6, Albion Cottages, Avenue Road, Stamford Hill, N.

Cameras, Lenses, etc. — Rouch's whole-plate patent tourist camera, swing and reversing back, three double slides, leather case, 9 by 7 Ross' R.S.

lens, little used; £11 lowest.—Stanford, 44, Borro-dale Road, Wandsworth, London, S.W.

Rayment's patent half-plate camera and one dark-slide, cost 115s.; also Optimus portable symmetrical half-plate lens, cost 52s. 6d.; will be sold cheap; offers solicited.—Pattison, 6, Burt Terrace, Gateshead.

Good mahogany studio camera and lens, takes pictures 10 by 8; £5; or what offers? — Edward Wood, 215, Abbey Hey Lane, Gorton, Manchester.

Changing Box.—Lancaster's Instantograph changing box (half), almost new, cost 31s., holds dozen plates, great advantages over slides; what offers? Write for information. — Bigland, Clarence Crescent, Newcastle-on-Tyne.

Lenses. — Half-plate rapid rectilinear lens; 30s.; good bargain.—T. Taylor, Tannery, Marple.

For sale, Lancaster's half-plate W.A. Rectigraph, with adapter to fit R.R. mount; lowest price 28s. Also 5 by 4 Optimus W.A. Euryscope, new; price 53s.; covers half-plate.—Address, A. P., care of M. Stalton, Guildhall Street, Lincoln.

Ross' portable symmetrical, No. 3, 5 in. focus; 45s.; cost 63s.—Sydney Stockwell, Morley, Leeds.

Optimus rapid rectilinear 12 by 10 lens, cost £7, nearly new; will take 50s. — Address, Piggins, 96, Old Kent Road.

Lenses, etc.—5 by 4 portrait lens, half-plate rapid rectilinear, large 5-cell battery, lamps, and bells; exchange for thoroughly good whole-plate camera, or sell separate.—Rector, Trusthorpe, Alford, Lincs.

Lancaster's quarter Instantograph lens, with shutter, 15s.; half-plate wide-angle Rectigraph, 25s.; three mahogany slides, quarter Instantograph, 11s. 6d.; all above quite new. Abraham's quarter detective, carries 12 plates changed from outside, £4 10s.—Medicus, 10, Warrender Park Terrace, Edinburgh.

Lenses, Plates, etc.—Ross' portable symmetrical, 4 in., 45s.; and 5 in., 50s.; Laverne rapid rectilinear, Iris diaphragm, whole-plate, cost 108s., price 55s.; Laverne half-plate rapid rectilinear, cost 50s., price 22s. 6d.; three dozen rapid Ilford plates, 7s.; three spools half-plate stripping films, cost 19s. 6d., price 15s.; approval.—Box 23, Southampton.

Roll-Holder.—Morgan and Kidd's roll-holder, perfect condition.—Hawksley, 76, Roe Lane, Southampton.

Sets.—Whole-plate outfit, Middlemiss camera, Dallmeyer lens, three double backs, shutter, tripod, bag, complete, perfect condition; £12.—G. G. Beaumont, Woodleigh, Dewsbury.

Watson's half-plate camera R.R. lens, tripod, three dark-slides, instantaneous shutter, view-finder, cost £10 6s., sell £3, splendid condition; also best leather camera case, velvet lined, cost 25s., sell 17s.; approval.—Perry, Holmdale, St. Jude's Road, Wolverhampton.

Shew's box hand-camera, with Eclipse lens, finder, changing back for 12 quarter-plates, finder, and Watson's cyclist's tripod, only used once; cost £7 10s.; price £5 10s.—Camera, 31, Glenam Road, N.E.

Lancaster's quarter-plate Instantograph 1888 for sale, three double backs, and tripod stand, lens, shutter; what offers?—Corrie, Acryse Place, Folkestone.

5 by 4 leather bellows camera, reversing back, double swing, rising and falling fronts, two best double slides, rapid rectilinear lens, wide-angle Optimus finder, tripod, canvas case; price 105s. — 273, Walworth Road, London.

Lancaster's half-plate Special camera, four double backs, three Tylar's, and adapter, in canvas bag, sliding leg tripod, all in good condition; price £5.—S. Sidebotham, 7, Leonard Street, Lower Openshaw, Manchester.

Half-plate leather bellows camera, reversible swing-back, lens, double slide, tripod; 45s.—Owen, Kimbolton Court, Leominster.

Half folding camera, reversing back, three double slides, lens, 35s., worth 60s.; Optimus tripod 10s. 6d.;

burnisher, 4s. 6d.; photograph, stamps. — 108, Leonardgate, Lancaster.

Good Mervelleux quarter-plate camera, dark-slide, lens, focussing cloth and stand, genuine bargain, only 13s. 6d.; also half-plate rapid (f/8) landscape lens, with stops, splendid definition, almost new, 15s. 6d.—S. Jackson, 12, Oldham Road, Fails-worth.

Quarter Tourgraph set, new, 21s., bargain; Optimus 5 by 4 R.R., new, 23s.; splendid half-plate lens, revolving stops, 15s.; exterior background, 10s.—Tooth, Caldecott Street, Rugby.

Whole-plate Meagher's camera, parallel bellows, one single and three double slides, two leather cases, Ross' rapid rectilinear lens, sliding-leg tripod, all in good condition; price £12 12s. — W. Simpson, 4, Blenheim Terrace, Leeds.

Shutters. — Half-plate Phoenix shutter, perfect condition; 10s.—Major Ashley, Fermanoy.

For sale, half-plate Phantom pneumatic shutter, good condition; 15s. — Hughes, West Ham Union, Leytonstone.

Studio. — Good portable studio, bargain; or exchange good Safety bicycle; photograph 2 stamps. — Mason, 5, Pleasant Row, Radford Road, Nottingham.

Sundries.—For sale, a 12 by 10 double dark-slide (book form, good as new), 5 by 4 wooden-body camera, slide, and portrait lens, Vever's 7s. 6d. burnisher, used twice, wall and pillar, and balcony and pedestal (both imitation stone, photograph 2 stamps); what offers? — Wm. C. B., 48, Lincoe Street, Gloucester.

WANTED.

Cameras. — Half-plate Instantograph camera, without lens or stand. — Photographer, Catherine Street, Devonport.

Half-plate square bellows camera, double slides, or whole-plate, cheap.—Day, 35, Berger Road, Homerton.

Camera Case.—Half-plate camera case, leather; reply.—Ford, 22, George Street, Richmond, Surrey.

Daguerrotype.—Copy wanted in silver or platinotype, coloured best work only.—H. W. Hartley Barron, Sheffield.

Lanterns.—Lantern, complete, and good half-plate lens. Will give Hillman's tricycle, worth £3.—Kennett, Sandgate, Kent.

Biunial lantern, in exchange for Dulciana pipes and other materials for small organ.—C., 8, Victoria Street, Brighton.

Lenses.—Half-plate rapid rectilinear lens, by first-class maker; state fullest particulars.—Alfred Hendrie, Thornwood, Uddington, N.B.

Quarter rectilinear lens for detective, cheap.—84, Albert Road, Croydon.

Dallmeyer's quarter rapid rectilinear, must be perfect condition.—Western, Ravensbourne, Shortlands.

7 by 5 Optimus rapid Euryscope or rapid rectilinear, must be cheap. — Parkes, Wilfrid Terrace, Jocks Lodge, Edinburgh.

Roll-Holders. — Eastman's improved half and quarter sizes.—H. W. Hartley Barron, Advertising Agents, Sheffield.

Roll-Holder and Lens.—Eastman roll-holder, 6½ by 4½, or 7½ by 5, old or new pattern, Wray's narrow-angle landscape lens, 5 by 4, must be cheap. — S., East Shelford Rectory, Lambourn, R.S.O., Berks.

Sets.—Whole-plate Instantograph, Lancaster's, complete. — State particulars and price to H. J. Adams, St. John's, Cedars Road, Beckenham.

Quarter Instantograph, recent pattern, including camera, three double slides, tripod, also extras, if possible without lens; approval.—Western, Ravensbourne, Shortlands.

Large lens or set, and quarter portrait wet-plate set; exchange oil landscapes by 30 years' exhibitor, Lodd Bridge, 28 by 36, soiled frame, £12, and others on view or reference. — H. Gummery, Henwick, Worcester.

Now Ready, Price 6d.

THE PHOTOGRAPHIC SOCIETIES' REPORTER

FOR MARCH 31st, 1890.

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THE VOCATION OF THE AMATEUR PHOTOGRAPHER.
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London: HAZELL, WATSON, & VINEY, Ltd., 1, Creed Lane, Ludgate Hill, E.C.

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NOTICES AS TO ADDRESS.

PUBLISHING DEPARTMENT.—All letters containing Subscriptions, Orders, Remittances, SALE AND EXCHANGE Advertisements, or other business matters for the *Amateur Photographer* are to be addressed to the Publishers, HAZELL, WATSON, AND VINEY, LD., 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

NOTE.—SALE AND EXCHANGE Advertisements, at the charge of Three Words for One Penny, can be received as late as WEDNESDAY MORNING.

ADVERTISEMENT DEPARTMENT.—All communications respecting TRADE Advertisements in the *Amateur Photographer* are to be addressed to PARRY AND CRAWFORD, 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

NOTE.—Trade Advertisements are received up to Tuesday morning.

EDITORIAL DEPARTMENT.—All Literary Contributions, Queries and Answers, Photographs for Competition or Criticism, Books or Apparatus for Notice or Review are to be addressed to the Editor, *Amateur Photographer*, 1, Creed Lane, Ludgate Hill, London, E.C.

NOTE.—To ensure insertion all Communications should reach the Editor on Tuesday.

CORRESPONDENCE SECTION.—Anyone wishing to communicate with Contributors can do so by forwarding such Communication in stamped envelope under cover to the Editor, *Amateur Photographer*, 1, Creed Lane, Ludgate Hill, London, E.C.

THE "AMATEUR PHOTOGRAPHER" FIRST LADIES' PHOTOGRAPHIC COMPETITION.

PRIZES.

First Prize	Gold Medal.
Second "	Silver Medal.
Third "	Bronze Medal.

(These Medals, of the smaller series, will be appropriately mounted as Brooches).

SUBJECTS.

Landscape or Seascape—Landscape with Figure—Genre or Figure Study.

NOTE.—The adjudication will be made by lady artists and lady photographers. It is hoped that it will be possible to make arrangements to exhibit the photographs at a *Conversazione* to be held in the offices, 1, Creed Lane, E.C., during the month of June.

Further particulars on application to the Editor, "*Amateur Photographer*," 1, Creed Lane, Ludgate Hill, London, E.C.

"In Daylight, Gaslight, Sunshine, Rain,
Each faithful 'Demon' works the same,

THE "DEMON" CAMERA

Defies Detection, and can be secreted under the vest, in the watch pocket, or concealed in the glove. It is made entirely of metal, beautifully plated, and weighs under 3 ozs. No movement is too rapid for it—the racehorse at greatest speed, the flight of birds, even the lightning flash itself. By merely pressing the trigger the Photograph is taken, therefore any person can use it, no knowledge of photography being necessary, for, unlike other cameras, it requires no focusing, no stand, no adjustment, no dark slides; yet hundreds of plates can be carried and exposed in rapid succession.

Read the following—

91, Newsham Drive, Liverpool.
Dear Sir.—Your "Demon" Detective Camera is the most wonderful and ingenious camera ever manufactured, and I cannot understand how it can be made for this money. I am a member of both the Liverpool and Birkenhead Photographic Societies, and will gladly distribute circulars respecting it among the members.

Your truly, G. M. NOOKES.

NOTE.—Apparatus, including Plates, Chemicals, and Instructions, post free, 5/6; extra dry plates, 9d. per doz. (6 doz. 4/).

Remember! We are the Cheapest Camera Makers in the World, the Cheapest for Dry Plates and all Sundries.

Illustrated Photographic Catalogue, post free, One Stamp.

AMERICAN CAMERA COMPANY

{ 93, OXFORD STREET, LONDON, W.
Also 397 & 399, EDGWARE ROAD, W.

NOTE ADDRESS—All Orders to Manager, P.P. Department, at latter Address.

"AMATEUR PHOTOGRAPHER" MONTHLY COMPETITIVE PAPERS, 1890.

The following Prizes are offered for competition every month:—

Three Prizes of £1 1 0 each.

Three Prizes of 0 10 6 each.

And Three Certificates.

The Papers must not exceed 1,000 words; and those which are awarded Prizes will be published in the *AMATEUR PHOTOGRAPHER*; others will be selected, and will be arranged for publication in the

"AMATEUR PHOTOGRAPHER'S ANNUAL."

Contributions are to be upon the subjects as list given below; and in order to make the matter more interesting, it is requested that each competitor shall give his *personal experiences*. It is intended that each subject shall be written up by a specialist for the *ANNUAL*, and the latest information given. All MSS. must be received not later than the

28TH OF EACH MONTH.

Subjects.

28th April	Action of Light.
28th May	Exposure.
28th June	Plates and Films: their Development and After Treatment.
28th July	Printing, Toning, Mounting, and Finishing.
28th August... ..	Artistic Effect and Composition.
29th September	Outdoor Instantaneous and General Photography

All MSS. to be addressed to the Editor, "*Amateur Photographer*," 1, Creed Lane, Ludgate Hill, London, E.C.

"AMATEUR PHOTOGRAPHER" MONTHLY PHOTOGRAPHIC COMPETITIONS.

THE PROPRIETORS of the *AMATEUR PHOTOGRAPHER* will offer, Monthly, two prizes, consisting of a

SILVER AND A BRONZE MEDAL (WITH RIBBON AND CLASP),

for the best and second-best photographs sent in to each of their Monthly Competitions. The subject of the Competitions will be as follows:—

LANDSCAPE OR SEASCAPE	June 14.
LANDSCAPE WITH FIGURE	July 14.
GENRE OR FIGURE STUDY	April 14 ... Aug. 14.
INSTANTANEOUS PHOTOGRAPHS, — ANIMALS, ETC.	May 14 .. Sept. 14.

Only one print is to be sent in; the negative of the prize pictures shall be at the service of the PROPRIETORS, and all the prints sent in shall become the property of the PROPRIETORS.

In addition to the Medals being given, the prize photographs will be produced in the *AMATEUR PHOTOGRAPHER*.

All photographs for any of the above competitions must be received by the

FOURTEENTH DAY OF THE FOLLOWING MONTH,

and as received will be acknowledged in the columns of the *AMATEUR PHOTOGRAPHER*.

Competitive prints are available for exhibition before Photographic Societies after the 1st of each month.

The prints will all be numbered, and when sent to societies, will be accompanied by a book for criticism. It is hoped that the President or other official will give a note stating the general opinion of the members of the Society.

Entry forms on receipt of stamped addressed envelope.

And fills with life the Album page,
While Five-guinea Cameras groan with rage."

THE "DEMON" CAMERA

Is made entirely of polished nickel silver, each part being stamped out by expensive machinery, the cost of which, to make the first one, exceeded one hundred pounds, therefore it is only the enormous number we are now turning out that enables us to supply this beautiful piece of workmanship at 5/.

Many people might imagine that the Demon Camera is only a toy, the price being so low, but hundreds of testimonials daily testify to the value of the apparatus and the success of purchasers. We derive no profit from the sale of the Cameras, each one costing us 5/., but we reckon to make 200,000 new customers for dry plates and other photographic sundries, and thus eventually repay ourselves for the outlay.

Read the following—

14, WRIGHTON ROAD, ABERLEY.
Dear Sir—I bought one of your "Demon" Cameras in Glasgow, and am highly delighted with it. I obtained three instantaneous pictures from the window of the Great Northern Express, travelling at fifty miles an hour, and they are perfect. Please send some of your lists, as my friends will not believe my negatives are produced with a five-shilling camera.
S. STEVENS.

THE
DEMON
(BY ROYAL LETTERS PATENT)
Detective Camera
PRICE 5/-
THE WONDER OF THE WORLD.
ABSOLUTE SECRECY
EACH NEGATIVE A PERFECT GEM
HUNDREDS OF TESTIMONIALS DAILY
AVERAGE SALE 2,000 PER WEEK
THIS BLOCK IS EXACT SIZE OF PLATE



1, Green Lane, Budgate Hill, London, E.C.

TELEPHONE No. 1645.

Telegraphic Address: "VINEY, LONDON."

VOL. XI. No. 288.]

FRIDAY, APRIL 11, 1890.

[PRICE TWOPENCE.]

✿ OUR VIEWS. ✿

To hold as 'twere the mirror up to nature."—*Shakespeare.*

WE are pleased now to be in a position to publish the awards of the gentlemen who have so kindly undertaken the heavy duties of judging the photographs contributed to the AMATEUR PHOTOGRAPHER Fifth "Prize Tour Competition." The following is the list of prize winners:

Gold Medal.—The Rev. Precentor MANN, "Three Weeks in Brittany."

Gold Medal.—PAUL LANGE, "A Tour in Norway."

Both these gentlemen were awarded a medal for their photographs, entered by us at the recent Crystal Palace Exhibition, and their work is of such equal value that we place them both first, and award each the AMATEUR PHOTOGRAPHER Gold Medal.

Second (Silver Medal and £4 4s.).—MAURICE DE DECHY, "Old Playground in Tyrol Re-visited."

Third (Silver Medal and £3 13s. 6d.).—MARTIN J. HARDING, "In the Lledr Valley, N. Wales."

Fourth (Silver Medal and £3 3s.).—JOHN C. LIVINGSTON, "A Fortnight in Lakeland."

Fifth (Bronze Medal and £2 12s. 6d.).—FREDERICK ANYON, "A Holiday Tour."

Sixth (Bronze Medal and £2 2s.).—CYRIL S. COBB, B.C.L., M.A., etc., "Across India."

Seventh (Bronze Medal and £1 11s. 6d.).—A. H. BLANKLEY, "Waters New—the Kennett and Avon Canal."

Eighth (Certificate and £1 1s.).—E. J. JACKSON, "A Tour in Norway."

Ninth (Certificate and 15s.).—C. EMMANUEL, B.A., "In and about Lowestoft."

Tenth (Certificate and 10s.).—D. R. CLARK, M.A., "Summer Holiday in Fife."

In what form we shall reproduce the prize pictures is a matter that is having our very serious attention; we shall certainly require prints and possibly the negatives of all. Some few competitors have asked for the return of their frames. We should much prefer that they be left with us

for a time. If not, we must ask for a duplicate set of prints, in order that they may be criticised, and the selection made from them for reproduction and ultimate publication in such form as we may deem desirable. The duplicate prints would be the most convenient to us, and then the framed photographs might be returned *at once.*

* * * *

WE were pleased to notice that many of our competitors who entered their work in the general classes at the Palace received recognition. We know that to many the conditions of the AMATEUR PHOTOGRAPHER Fifth "Prize Tour Competition" appeared somewhat stringent, but we determined to have no photographs that had been exhibited before, and to close the competition against "pot-hunters." In this we succeeded, and had the extreme satisfaction of showing upwards of 400 photographs at the Crystal Palace that had never before been exhibited, every one of which was the unaided work of an amateur photographer. We venture to say that there has never been an exhibition before at which 400 virgin photographs have been exhibited.

We intend to persevere in the encouragement of new work, and shall take care that in none of our competitions work that has been exhibited before shall be entered, whether medalled or not.

* * * *

In a few weeks we shall be able to announce the appointment of several "District Editors." We would, whilst thanking many who have written suggesting gentlemen fitted to fill the position, state that we shall be glad to hear from any of our readers who may have suggestions to make and gentlemen to propose. The "districting" is being proceeded with, and we shall not be satisfied until we have an organisation as far-reaching and as comprehensive as that which has been so ably formed for the Cyclist Touring Club, through the untiring exertions of Mr. E. R. Shipton, the excellent Secretary of the Club.

* * * *

THIS "districting" or organisation is not new with us; we have had the matter under consideration for a long

time past. The necessities of the times have determined us, and we intend to "set our face like a flint" until we have accomplished the work. Forso comprehensive an undertaking we shall need help, and shall not, we feel sure, appeal to our many thousands of readers and well-wishers in vain. We would ask all those who can help us, and they are many, to let us hear from them as speedily as possible; we shall also be glad of any suggestions.

It is not intended that the present movement shall in any way interfere with the proposed scheme to establish a Photographic Institute, which only lies dormant for a while; in fact, it has been thought desirable to wait and see whether the Camera Club, when located in their new premises, will fulfil in any degree the intentions of the promoters of the Institute, and whether anything will come out of the schemes which are now under consideration by the Council of the Photographic Society of Great Britain.

* * * *

New photographic societies, some of a most important character, are being started. There are several new societies noted this week. The most notable is the Jersey Amateur Photographic Society, under the presidency of Captain T. Lamb. Several well-known amateurs figure upon the committee, and the work of the society indoors and outdoors has made a most excellent start. We trust the executive will extend to us the privilege of introducing visitors and allow the use of their dark-room, or better still, arrange a reasonable fee for temporary membership. The Secretary is Dr. Cumberland Taylor, 28, David Place, Jersey, who will be glad to give further particulars.

This temporary membership should commend itself to committees of societies in all seaside towns and touring centres. In the first place, there is the mundane consideration of increased revenue, and, secondly, the interchange of ideas and dissemination of information interesting to workers in photography.

* * * *

A SOCIETY has also been started at Lewisham. We publish a letter from the Secretary. At Leytonstone a society was started last year, and the Secretary will be very glad of new members. He calls attention to the beautiful, and in a great measure unexplored, photographic haunts in and around Epping Forest, and suggests a possibility of the members undertaking "a systematic photographic survey of the Forest and the villages adjacent to it." He has our hearty good wishes, and we shall be glad to hear that, through the insertion of his letter, many new members are enrolled. We would, however, remind him that although the Society has been established a year, we remembered so little of it, having during the winter season seen no reports of its doings, that we were under the impression that the Society was only just started. Secretaries of struggling societies should remember that there is a column in the AMATEUR PHOTOGRAPHER for the purpose of publishing their doings, and that the REPORTER is *facile princeps* the journal in which their proceedings should appear. The photographic public could then judge them by their works.

* * * *

WE are pleased to notice that there is a movement on foot to form a photographic society at Dover. A preliminary meeting has been held, and Mr. W. Osborne

Saul, New Bridge, Dover, will be pleased to hear from anyone wishing to aid the movement.

* * * *

WITH regard to the lantern slides contributed to our Lantern Slide Competition, all those for which an addressed envelope or label and stamps were sent will be returned not later than Monday next. The others will be retained and added to our collection. Copies of all the prize slides will be required, and a formal letter to each prize winner will be sent.

* * * *

ON Thursday evening Mr. W. A. Brown read a paper on the "Chemistry of Photography," illustrated with experiments, before the members of the Birkenhead Photographic Association.

* * * *

ON the 14th inst. the new Boston slides ("The White Mountains") and "The Hundred of Wirral" will be exhibited under the auspices of the Liverpool Amateur Photographic Association.

* * * *

THE Lewes Photographic Society this season intend to do some practical work, and will undertake a photographic survey of the town of Lewes.

* * * *

AT the recent exhibition promoted by the Y.M.C.A. Camera Club, Belfast, we are pleased to note that the AMATEUR PHOTOGRAPHER Silver Medal has been awarded to Mr. S. B. Coates, M.D., for landscapes, and the Bronze Medal to Mr. James H. Hamilton, for photographs of flowers.

* * * *

THE Newcastle-on-Tyne Exhibition is to be opened with much ceremony on the 18th inst. A feature of the function will be the delivery by Mr. Paul Lange of his exceedingly interesting lecture on Norway. We understand that the entries are quite as numerous as was anticipated, and there is every prospect of a most interesting and successful exhibition.

* * * *

THE Secretary of a Photographic Association who has had our "Enlargement Competition" on loan writes:—"They are a means of helping on any society, as was shown by the large attendance."

* * * *

IN answer to our remarks upon the "AMATEUR PHOTOGRAPHER Annual," we have been favoured with several suggestions. These are receiving very mature consideration. We shall be very grateful to our readers if they will kindly send us their views upon what the "Annual" should contain. It is certain that there is an ample field for an "Annual" devoted to matters of interest to amateurs.

* * * *

WE are pleased to notice that the *Daily News* are kind enough to draw attention to Mr. C. H. Bothamley's article on "The Optical Lantern as an aid in Teaching," which appears in the April number of the PHOTOGRAPHIC QUARTERLY.

* * * *

IN accordance with what may now be called "ancient custom," we shall be pleased to receive short articles descriptive of "Holiday Resorts and Photographic Haunts." The MSS. should not exceed 1,000 words, or be less than 500. The

model for these articles may be found in the back numbers of the AMATEUR PHOTOGRAPHER. We shall commence the publication of them in the first week in May, and shall be glad of early "copy." At the end of the season we shall give a prize for the best and second-best article published.

* * * *

THE NEW ENGLISH ART CLUB.

If the reader happens to be passing Humphrey's Mansions, Knightsbridge, he will do well to turn into the premises of the New English Art Club, and spend a short time among the pictures which adorn the walls of the four spacious rooms which form the Gallery of its members.

The collection as a whole may be said to manifest energy and originality; there is very often a breaking away from conventionalities of conception and treatment that is distinctly refreshing and breathes hopefully for the future. Yet there is no denying that much of the work exhibited is remarkable for nothing except its mediocrity, and one cannot help feeling that the selecting jury of the Club have not exercised sufficient severity in the suppression of such productions as have absolutely no claim to be called art—whatever be the point of view from which one regards them. Their idea seems to have been to cover all the walls of their rooms with frames; they would have done better to have covered less wall space with superior quality.

Inasmuch then as there is a great deal that may be passed over without notice, it becomes the more necessary to point out those pictures which are worthy of attention. Just as a personal fault in an acquaintance forces itself into notice far more obtrusively than a virtue, so a bad picture will often catch the eye more readily than a good one, and on entering the first large room, known as "The Salon," the attention of the visitor cannot help being arrested by No. 2, a canvas purporting to represent "A Northern Shore," the sea breaking on a sandy shore where sea-gulls hover. But what sort of a sea is this? A petrified cotton-wool sea, conveying nothing of the idea of motion, nothing of the grandeur and the poetry of the rolling billows, but a hard meaningless, motionless ocean. Here, indeed, is a case in point for Mr. Rossi—an instantaneous photograph of the sea might have taught this artist much, and the photographer, whoever he may be, who is the author of the charming sea pieces often on view in Spooner's window in the Strand might give the "artist" of "A Northern Shore" many points, and win "hands down" so far as artistic excellence goes.

But let us turn away from this painful picture to Mr. Walter Sickert's admirable work, No. 9. This is a full-length portrait of a lady (dressed, unfortunately, in a somewhat unbecoming costume) standing in a darkened room, with the light streaming in, one hardly knows from where, and lighting up her right shoulder (she has her back towards the spectator and her head turned towards her left shoulder), her hair and the side of her face turned away from the spectator, so as to throw up her profile against the dark background, while the side of her face that one actually sees is still in shadow. The effect is most original, and the artist is to be congratulated on having achieved a success, by the production of a composition the conception of which is full of audacity.

No. 12 is a picturesque and taking little interior by Millicent S. Grose, the figure of the mother rocking the cradle strikes one, however, as being a trifle stiff.

No. 17, by A. Ludovici, jun., is a realistic picture of London street life, and it is perhaps hypercritical to say that the exceedingly clean street forms rather an excess of foreground; at any rate, Mr. Ludovici has caught that peculiar haze in the atmosphere which is seen nowhere but in London, and in this respect he triumphs over the artist of No. 35, the composition of whose picture "Edgware Road" is, perhaps, in other respects preferable.

The next picture that is worth attention is No. 25, the portrait of a lady practising upon a piano in a drawing-room; the portrait is wonderfully life-like, and leaves nothing to be desired, so natural is it. But the photographer would find it difficult to realise in what possible position the artist could have placed himself in order to get this particularly peculiar view of the drawing-room. There is a sort of crooked look about the arrangement of the furniture; and the rows of empty chairs neatly arranged against the walls would remind one of a lodging-house if it were not for the elegance of the upholstery. Mr. Sidney Starr is the artist, and so it is unnecessary to point out the admirable way in which the furniture and accessories are painted, and one can easily forget the defects of the picture in contemplating its evident excellencies. Close by is No. 27, a realistically repulsive portrait of Mr. Bradlaugh.

No. 34 is the gem of the collection. It is a full-length portrait of a lady, and the originality of the scheme of colour and the refinement that is marked in every touch places it beyond praise. The pose of the figure is in itself a study, and it would well repay any photographer whose predilection lies in the direction of portraiture to visit the Gallery in order to see this picture only.

There is one of Mr. T. Wore's Japanese pictures in this room, No. 36. In Room 4 there is another, No. 130; both were evidently painted on the spot, and manifest a considerable amount of care and pains, but are if anything too elaborately finished, and, curiously enough, recall the method of Memling.

Passing on to Room No. 2, "The Yellow Room," notice No. 44, "On a Summer's Day off Bamborough," by Nelson Dawson, a very soft, tender little seascape, with a really beautifully rendered sky. The collection is not rich in landscape, but No. 62 is a breezy bit, and No. 59 is worth a glance, and has merits, as also has No. 127, in Room 3.

Nos. 51, 52, 53 are studies of a little girl by Jacques E. Blanche. They are certainly instructive, though perhaps not very attractive. In No. 51 especially, one cannot help remarking the exceedingly uncomfortable and inelegant position in which the artist has chosen to portray the unhappy-looking child, who certainly could not have preserved her pose with comfort for more than ten seconds consecutively. Not even the veriest tyro in photography would have exposed a plate on his subject so placed. Yet the picture itself is, in some way, redeemed by the clever colouring; it is an arrangement in blues, and as such must be considered a success. No. 52 is similar, but the position of the child is not so distressing; yet in all three of his pictures the artist seems entirely to have disregarded natural attitude and the beauty of line and curve.

With No. 76, "The Amethyst Cloud, Jungfrau," one feels disappointed. Mr. Stott's work exhibited at the Grosvenor, though on a smaller scale, brought home the glory and the beauty of Alpine scenery far more truthfully than his present work now exhibiting at the New English Art Club. The picture is too large, yet, while it is large,

it fails either to convey the size of the majestic Jungfrau or the atmospheric effect which the artist designed. It conveys to the photographer the idea of a badly enlarged photograph, and one cannot help thinking that it is essentially a studio-painted picture.

Mr. William Hunt's "Carting Straw" is terribly hard and unsympathetic; he should take a course under Dr. Emerson. Nos. 60, 71, 72, and 79 are pretty little water-coloured sketches of Spain and Algeria, and are worth a glance; so, too, is No. 87, a purely imaginary picture by A. Roche.

In Room 3, No. 96, "File Cutters," is good and truthful, though the figures are a little too crowded. No. 100 is a charming moonlight scene by Moffat P. Lindner, and although the houses on the left are architecturally quite hideous, yet the general effect of the picture with the light streaming through the windows and reflected on the water where the fishing boats are lying at anchor is very realistic, and the artist has certainly made the most of his subject. No. 105, "Bad Weather," by Fred W. Jackson, is the best seascape exhibited, the composition being admirable. Some fishermen and women are dragging a boat up on to the beach under the lee of a breakwater, against which the waves are impatiently beating, and the whole atmosphere of the picture betokens the approach of dirty weather. It is instructive to compare the painting of the waves in this picture with No. 65. There is nothing else noticeable in this room except a couple of full-length portraits, both of ladies in green dresses, of which No. 126 is the best; while No. 113 can be looked at only as a set off against the admirable portrait in Room 1 (No. 34).

In Room 4 we have "A Slant of Evening Light in Polperro Harbour," a delightfully well thought out study—one of the best compositions exhibited, and a style of picture quite within the powers of an artistic photographer, and altogether most suggestive. No. 140 is a good snow scene, but one of those pictures where the foreground extends more than half way up the canvas, conveying to a photographer that the artist forgot to use his rising front.

No. 148, "Lily," by James Guthrie, has found great favour with the critics, and it must be left to the visitor to say whether he considers it a satisfactory production. No. 150 is a charming little landscape entitled "Slender Trees that Kiss the Sky," and is full of feeling. No. 163 is truly Emersonian. No. 164 is hung too high to enable one to appreciate it. No. 165, the portrait of an old lady nursing a child, savours too much of the stiff attitudes and staring eyes that marked the professional portrait photographer thirty years ago. No. 168 is a clever bit of painting. If the reader has not time to look at all the pictures mentioned, let him, at any rate, not fail to see Nos. 9, 25, 34, 44, 100, 105, 134; these are the cream of the collection.

On the whole, the New English Art Club is to be congratulated on this exhibition. We, as photographers, can hold out the hand of fellowship to the members of the Club and encourage them to persevere in the road along which they have made so excellent a start, for they (with a few notable exceptions) have realised at least one of the truths artists are ready to acknowledge, that they owe in no small measure to the advance of photography along the artistic path, namely, that "nature out-of-doors cannot be mimicked by paintings in a studio, and that to handle a subject dramatically it is not necessary to be theatrical."

Letters to the Editor.

CRYSTAL PALACE CHALLENGE CUP COMPETITION, AND THE NEWCASTLE-ON-TYNE AND NORTHERN COUNTIES PHOTOGRAPHIC ASSOCIATION.

SIR,—We approach this subject fully aware how unpleasant the task usually is of championising our own works, and this alone would have induced us, under any other circumstances, to leave matters as they stand in the Crystal Palace Club Cup Competition. But the glaring injustice of this extraordinary award involves the duty of warning the photographic world against encouraging its repetition.

We have so much proof of the Cup having been misdealt with in this present case as to amount to a positive *embarras de richesse* when it is necessary to reduce it to a sufficiently compressed space for presentation before your readers.

Previous to determining on entering for this Challenge Cup Competition, we carefully perused the entire rules appertaining to it, as forwarded to us for that purpose, and found it to be thoroughly open, with absolutely no restriction as to amateurs or professionals only competing, no limitation as to size or class of photograph, and no mention even that pictures which had been previously exhibited in individual classes at the Crystal Palace were not eligible. Carefully abiding by these rules, we selected and sent seventy-five pictures, more than forty-five of which had already received awards; twenty-four lantern slides and six stereoscopic slides, most of which had also previously been medalled.

We received the following acknowledgment and acceptance of our exhibit, under date of February 26th:—"Your papers to hand, and we are much obliged for the great care you have taken. We must just point out that Mr. Gibson has included two pictures with the same titles as previously sent; also Mr. Lyd. Sawyer has again sent the 'Boat-builders,' though shown here in '88, and the 'Castle Garth,' shown here last year. As we cannot admit pictures more than once, perhaps they would like to substitute others."

This was, of course, tacitly accepting all our exhibits with the exception of the four pictures mentioned. These latter were sent because we found that there was no rule debarring them, and because it was as reasonable to accept pictures for the Challenge Cup class which had been shown in individual classes last year as to accept pictures shown in individual classes this year. However, on receipt of this letter, Mr. Gibson and Mr. Sawyer each wrote to the executive separately, requesting that the four pictures alluded to should be placed aside until the end of the exhibition, and Mr. Sawyer forwarded two others in place of those of his objected to.

Subsequently, we received another letter from the same source, of which the following is a sufficient extract, dated March 8th:—"Your Club exhibit has arrived safely, and all pictures are hung. I think you will be very pleased with the show."

If all our pictures were hung, in face of two separate requests from us for four of them to be withdrawn, it suggests that either they were after all accepted as admissible by the executive, or else that they were still hung as a weak plea for afterwards disqualifying us. Which was it?

We next hear of our pictures through *Photography* of March 20th, which states, "At the time of writing this we do not know the awards, but, to our minds, Newcastle—by reason of having at least five noted professionals represented—stands far away ahead. Next must come the Liverpool Amateur, which is represented by an excellent lot of pictures."

Writing later, in the same number, *Photography* again says, "It will be seen by our report that the Society Challenge Cup Competition at the Crystal Palace has fallen to Birmingham. It is rather a significant fact (*vide* report) that when the award was announced on the sheet it appeared as 'Three Cheers for Birmingham.' Before expressing any further opinion on the matter, we should like to know if any societies were disqualified, and why?"

The AMATEUR PHOTOGRAPHER for March 21st contains the following anent the Cup Competition:—"Next year probably some conditions will be laid down by the management, for surely it cannot be an equal competition when one of two alcoves occupied by the Newcastle Society is filled by the work of two such men as Gibson of Hexham and Lyd. Sawyer."

Now, one of the extraordinary parts of this quotation is that

we have reason to believe it was written by one of the Judges of the Cup Competition, and although it says plainly that our exhibit was too good for the rest, yet the Cup has not been awarded us! We know that we cannot be honestly disqualified, and, as stated in our previous letter which appeared in your columns, we challenged an explanation, and stated that we had good authority for knowing that only a portion of our pictures was judged.

The following reply from the Executive, dated March 24th, was duly received:—"In reply to your letter of 21st inst., I have the honour to refer you to our letter of 26th February ult., and to Rules 6 (note to Rule) and 16 marked and enclosed. You can have no authoritative information except through the hands of the Executive, consisting of Mr. Peasgood and yours faithfully, S. G. Buchanan Wollaston."

This is very nice and decisive, if we were prepared to accept it, and if there was no higher tribunal than these same Messrs. Peasgood and Wollaston to appeal to. But we did not take the trouble to make and send our exhibit only to be dealt with as their whims or interest dictated. There is a higher tribunal in the shape of our photographic *confrères* to lay the matter before.

Here, then, let us analyse their lame attempt at justification. "Our letter of 26th February" refers to the one above quoted, in which they objected to two pictures sent by Mr. Gibson and two sent by Mr. Sawyer. As Messrs. Gibson and Sawyer each individually wrote asking for these four pictures to be withdrawn, this fact ceases to have any bearing upon the case. The "Note to Rule 6" referred to, says:—"N.B. The Executive reserves all rights as regards the hanging of pictures, and may refuse to display any picture without assigning reasons for so doing."

This rule in no manner applies to us, as, according to their own statement of March 8th, all our pictures were accepted and hung; but whether or not this includes the four pictures objected to we cannot say, and as it was a matter entirely resting in their own hands, we are not legitimately affected by it.

Rule 16, as underlined by them, says:—"From the decision of the judges there can be no appeal." Very proper, so far as it goes, but more remains behind. They continue, "You can have no authoritative information except through the hands of the Executive," etc. That is official-like, but, unfortunately, it is not or should not be true. The Judges are (or, shall we in this case say, should be?) the first authority in these matters, and it is from one of the Judges we learn that Messrs. Gibson and Sawyer's pictures (not the four of them in question, but all or nearly all) were left unjudged; hence, as the Judges did not decide on all our exhibits, it is not a complete decision, and need not be final. Now what can your readers infer from this array of facts? The letter of the Judge (a man of known integrity and eminence) was not sent us for publication, so we refrain from any possible breach of confidence by further locating it, and we have an amount of other confidential correspondence touching on the subject.

It remains for us to apologise to you for the unavoidable length of our communication, which, we trust, may come, at all events, with some negative appropriateness to the present discussion on rules and regulations at exhibitions.—We are, yours very truly,

AUTY AND RUDDOCK,	W. PARRY,
T. GALLOWAY,	J. PIKE,
J. P. GIBSON,	H. R. PROCTER,
J. E. GOOLD,	H. G. RIDGWAY,
EDGAR G. LEE,	LYD. SAWYER.

Mosley Street Café, Newcastle-on-Tyne,
March 31st, 1890.

* * * *

HAND-CAMERAS AND STEREOSCOPIC WORK.

SIR,—I have long been hoping to find among the numerous hand-cameras in the market, that the idea had been successfully applied to the stereoscopic form, but so far I have been disappointed.

As a makeshift I have used two Kodaks clamped together, and by enlargement from the negatives very excellent transparent slides have been produced, but in practice it is difficult to liberate the two shutters at the same moment, and therefore I am anxious to find something better.

During the past two years I have corresponded with two or three leading firms on the subject, and from the replies received I fully expected that one or two cameras of this form would be offered. There can hardly now be any doubt about the revival of interest in the stereoscope, and a hand-camera producing stereoscopic negatives on films would probably soon become very popular. If any are already made, I, and no doubt many of your readers, shall be glad to hear of them, or to learn that it is the intention of some of the best makers to give the subject their attention.—Yours, etc.,
Rb. Rb.

April 1st, 1890.

* * * *

YELLOW STAINS CAUSED BY HYDROQUINONE.

SIR.—You published last week a letter from Mr. W. E. Reynolds, in which he recommends a solution of potassic iodide and auric terchloride for the removal of the yellow staining which invariably occurs when using hydroquinone as a developer.

I have not tried this myself, but I am glad to see that he mentions at the same time, what to my mind is a serious objection to the use of this remedy. In the first place, if I understand him correctly, the print must be *thoroughly* washed, then treated with the iodide and gold, which turns it all manner of colours, and finally requires prolonged soaking to eliminate the blue iodide of starch. All this means time wasted, as in the ordinary course of events when a print is thoroughly washed it should be ready for drying.

Hydroquinone is a capital developer for bromide enlargements or prints, and also for lantern slides, and one need not mind seeing a little yellowness after development, as it can be easily removed in a much more simple way, in my opinion, than that suggested by Mr. Reynolds. I have seen the staining on lantern plates and negatives quite as much as on bromide paper, but it is, of course, much more noticeable in the latter. It resembles in many respects the yellowness produced by pyrogallie acid and ammonia as regards its distribution and behaviour. The pyrogallie stain, however, is readily removed by acidulated water (preferably made with sulphuric acid), which is called a "clearing solution." The hydroquinone stain, on the other hand, is not in any way touched by acids, but quickly disappears on treatment with a dilute solution of cyanide of potassium. I am convinced that cyanide of potassium and water, about 2 drms. to the pint, forms the proper clearing solution for hydroquinone, as it does all that is required of it in a thoroughly efficient manner, and much in the same way as the acid after the older form of development. The advantages are: it can be used soon after fixing; it acts in a few seconds, and cleans the paper thoroughly, leaving the whites perfect; and can be used either for paper or plates only requiring ordinary washing afterwards. Properly employed it should not reduce the density of the print any more than the acid clearing solution after development by pyro and ammonia.

—Yours faithfully,

W. AMBROSE KIBBLER.

April 7th, 1890.

SIR,—Though the letter of Mr. W. E. Reynolds was very interesting and most instructive, I think that, "prevention being better than cure," it would be well to know how to avoid these accidents if it is possible.

As far as my experience goes, I believe the stains referred to are due to one of two causes. They are occasioned by the prolonged development required to gain the requisite density, which is the result either of under-exposing the print or using too weak a developer. It happens in development with eikonogen as well as with hydroquinone, but is not due really to either of these, but to the accelerator used.

The best way to avoid the stains in future is to increase the exposure, if that is to blame, and take care the developer has not been too much impoverished by previous development.

If I am wrong, I hope some better authority will do me a kindness by setting me right.—I am, etc.,
SUCCESS.

* * * *

PHOTOGRAPHIC SOCIETY FOR THE POTTERIES.

SIR,—In reply to the letter in your last issue from Mr. W. Wilberforce Beach, we feel no little astonishment that he should consider amateurs from the Potteries should not have a society of their own, but should go to some place outside their districts.

Suppose amateurs from Burslem joined the Newcastle Society, they would have a walk of four miles to attend the meetings, which is more than Mr. Beach has any right to expect. Surely the population of the Potteries, which is over 200,000, can support two societies. We cannot but admire the modest assurance of Mr. Beach in asking amateurs from the potteries to send in their names to him. We wish the Newcastle Society every success, at the same time we believe that another society is much needed, and shall do our utmost to make our society a great success.

Our chief reason for starting this society has been because of the distance of Newcastle from Burslem and Tunstall.

We are holding our first meeting this week, and from the promises of support we have received we feel no doubt as to the result of our efforts. We can assure Mr. Beach that we have not brought forward this society in any spirit of antagonism, but will gladly do what we can to co-operate with the Newcastle Society in anything that lies within our power.—Yours, etc.,

F. C. POWELL,
J. F. HEWITT.

Burslem, 5th April, 1890.

* * * *

LEYTONSTONE AND EPPING FOREST PHOTOGRAPHIC SOCIETY.

SIR,—May I call attention to the Society whose title appears above? I am convinced that there are numbers of amateur workers in our district who only need to be informed of the existence of such a Society to become members at once. I am writing to invite all such to join us.

We are making an effort to increase our membership, and consequently our power for useful work. The proximity of the Forest, and its photographic possibilities, afford alone sufficient *raison d'être* for our Society; and when it is remembered that there is no other in the neighbourhood, it should, I think, receive the hearty support of all local amateurs, not excluding professionals.

We have comfortable rooms for meetings, besides a conveniently-fitted dark-room. The subscription is small, and chiefly goes towards a fund for the purchase of apparatus for members' use. Our head-quarters are at the Fillebrook Lecture Hall, Fairlop Road, Leytonstone, three minutes' walk from the station, and very convenient for all who travel up and down the Loughton line. We shall be glad to see visitors at our next monthly meeting, on Wednesday, April 16th, at 8 o'clock, when Mr. A. Whitman has promised a paper, practically illustrated, on "Chloride of Silver Emulsion Papers," to be followed by a discussion on "Artistic Photography," opened by the Secretary.

I shall be happy to give any information through the post.—I am, Sir, yours truly,

JOSEPH W. SPURGEON (Hon. Sec.)

1, Drayton Villas, Leytonstone, Essex, April 3rd, 1890.

* * * *

LEWISHAM HIGH ROAD CAMERA CLUB.

SIR,—A preliminary meeting was held at the Congregational Lecture Hall, Lewisham High Road, on the 1st inst., when thirteen members were enrolled, and the Club duly constituted.

The next meeting takes place on Tuesday, April 15th, at 8 p.m., when we shall be glad to see ladies and gentlemen wishing to join. The subscription has been fixed at a very low sum (5s. per annum), so as to present no obstacle, and it is to be hoped we shall soon see a large increase in our numbers.—I am, etc.,

40, Sandbourne Road, Brockley, E.C.

B. DAVIDSON.

April 2nd, 1890.

* * * *

PHOTOGRAPHY MADE EASY.

SIR,—I know that what I am going to say is not new, but it does not seem to have attracted the attention it deserves, therefore I hope you will forgive me for trespassing on your space. My wish is to assist those who require it. It is really marvellous that, considering all we know, have seen and heard, and the sociability and communicability of the dabbles in the art, there are so many of us working in the dark, straining our eyes, upsetting and breaking our bottles, lamps, chimneys, and plates, when we might easily avoid all these discomforts at a very small cost.

It is a hard thing for a photographer of experience to judge of the density of a negative by the darkest of ruby lights; how much more must it be to one who has not had much experience! To him the disappointments must be very numerous and discouraging. All this can be avoided, and real pleasure take the place of the

previous torture. Ruby glass in lamps should be abolished, it only damages the sight; and in its place should be a thinner piece of plain glass, outside of which three thicknesses of canary medium (the yellow calico sold by all dealers) should be slid into the groove with the glass. The most rapid plates will not be affected by the light. It is impossible for me to express the relief I felt when I first made the change. My lamp is a triangular one, with a metal back on one side, another side has the three thicknesses of canary medium, and the other two folds. The latter light I use when development has gone on considerably. Anyone can now judge density to a nicety, and have plenty of light to see everything in the room. I use the most rapid plates I can get, and nearly all my work is with a detective camera. In developing Edwards' isochromatic sixties, I cover them over for a time until their sensitiveness is so reduced that they can be uncovered with safety.—I am, sir, yours faithfully,

EXPERIENCE.

* * * *

OBER-AMMERGAU.

SIR,—Photography is permitted in Germany, but in public parks, museums, etc., it is better to ask permission of the "Polizei President."

German custom agents are *very polite* if you are polite with them, and will let pass your plates without any difficulty. You can get plates *en route* in all large cities, and I believe in best condition. In Munich I recommend you May and Widmayer, 5, Promenaden Pl., or Otto Wernhard, 24, Sonnen St.—I am, sir, yours truly,

ROBERT TALBOT.

April 5th, 1890.

* * * *

ALPHA PLATES.

SIR,—We may be permitted to reply on this subject, and say that we believe that the finger marks are not made in course of manufacture, but by users unconsciously touching film when looking to see which is the coated side, not having noticed this when opening the box.

Out of the many thousands of gross sent out, we have had only four complaints, and have not met with the fault in our own experience. We would point out to your correspondents that the same hands coat and pack our ordinary plates, and we therefore fail to see why the Alpha should be inferior in point of manufacture. We should just like to add that we deem it scarcely fair to us as manufacturers for users of our plates to send such letters until we have been written to. We are at all times happy to give all letters of complaint our courteous attention, and, failing clear proof that the user is at fault, to give him the benefit of the doubt, and exchange the goods of which he complains.

If users of the Alpha plates have found the "face to face" method of packing injurious to the film, we can only say that this has not been our own experience, nor have we had more than one or two cases of the sort brought to our notice. If our experience has been exceptional, and those who think the plates would be better packed otherwise would write to us, we will consider the matter according to the weight of evidence, and consult the wishes of the majority, as we have always done since we first placed a good plate at a popular price on the market.—Yours, etc.,

THE BRITANNIA WORKS COMPANY.

SIR,—I notice several letters respecting "Alpha" lantern plates, with which I thoroughly concur. About six months ago I wrote to the Britannia Works Company to say that I thought it a pity that their lantern plates, otherwise so splendid, should be spoiled by bad packing.

Their answer was, that, after many experiments, they found the plan adopted better than any other, and that mine was the only complaint that had reached them. I thought I might have got a damaged box, and tried again from a different dealer, with the same result.

I find most of the plates with some sort of scratch, and some with holes quite through the film, usually in the centre of the plate, made most probably by fragments of glass getting between the plates, which are simply packed face to face without anything between them. With this exception they seem to me to be perfect, as it is so easy to get a good slide of any colour you wish.—Faithfully yours,

J. M. KEOGH.

7, Elma Terrace, Merriem Road, March 31st, 1890.

Chemistry for Photographers.

By C. H. BOTHAMLEY, F.I.C., F.C.S.

(The Yorkshire College, Victoria University).

(Continued from page 216.)

THE CHEMICAL ELEMENTS.

THE number of the chemical elements—simple bodies which so far have not been decomposed, or out of which nothing has been obtained different from themselves—is between 70 and 80. The exact number is uncertain, because the existence of several new elements, although rendered highly probable by the evidence already obtained, has not been clearly demonstrated. In the following list only those elements are included, the existence of which may be regarded as definitely established.

The Chemical Elements, their Symbols and Atomic Weights.

		H = 1.	O = 16			H = 1.	O = 16
*Aluminium ...	Al	27.0	27.1	Nickel ...	Ni	58.6	59
*Antimony ..	Sb	119.6	120.3	Niobium ...	Nb	93.7	94.2
Arsenic ...	As	74.9	75.0	*Nitrogen ...	N	14.0	14.0
*Barium ...	Ba	136.9	137.0	Osmium ...	Os	195	192
Beryllium ...	Be	9.1	9.1	*Oxygen ...	O	15.96	16
Bismuth ...	Bi	207.5	208.0	*Palladium ...	Pd	106.2	106
*Boron ...	B	10.9	11.0	*Phosphorus	P	31.0	31.0
*Bromine ...	Br	79.8	80.0	*Platinum ...	Pt	194.3	194.8
*Cadmium ...	Cd	111.7	112.1	*Potassium ...	K	39.0	39.1
Caesium ...	Cs	132.7	132.9	Rhodium ...	Rh	104.1	103
*Calcium ...	Ca	39.9	40.0	Rubidium ...	Rb	85.2	85.4
*Carbon ...	C	12.0	12.0	Ruthenium	Ru	103.5	103.8
Cerium ...	Ce	141.2	140.2	Samarium ..	Sa	—	150
*Chlorine ...	Cl	35.4	35.5	Scandium ...	Sc	44.0	44.1
*Chromium ...	Cr	52.5	52.3	Selenium ...	Se	78.9	79.1
Cobalt ...	Co	58.6	59.0	*Silicon ...	Si	28.3	28.4
*Copper ...	Cu	63.2	63.3	*Silver ...	Ag	107.7	107.9
Didymium ...	Di	145	—	*Sodium ...	Na	23.0	23.1
Erbium ...	Er	166	166	*Strontium ...	Sr	87.3	87.5
*Fluorine ...	F	19.0	19.0	*Sulphur ...	S	32.0	32.1
Gallium ...	Ga	69	69.9	Tantalum ...	Ta	182	—
Germanium ...	Ge	—	72.3	Tellurium ...	Te	126.3	125
*Gold ...	Au	196.8	197.2	Terbium ...	Tb	—	—
*Hydrogen ...	H	1.0	1.0	Thallium ...	Tl	203.7	204.1
Indium ...	In	113.4	113.7	Thorium ...	Th	232.0	232.4
*Iodine ...	I	126.5	126.9	*Tin ...	Sn	117.4	118.1
*Iridium ...	Ir	192.5	193.2	Titanium ...	Ti	48.0	48.1
*Iron ...	Fe	55.9	56.0	*Tungsten ..	W	183.6	184.0
Lanthanum ...	La	138.5	138.5	*Uranium ...	Ur	239.8	239.4
*Lead ...	Pb	206.4	206.9	Vanadium ...	V	51.1	51.2
*Lithium ...	Li	7.0	7.0	Ytterbium ...	Yb	—	173.2
*Magnesium ...	Mg	23.9	24.4	Yttrium ...	Y	89.6	88.7
*Manganese ...	Mn	54.8	55.0	*Zinc ...	Zn	64.9	65.5
*Mercury ...	Hg	199.8	200.4	Zirconium ..	Zr	90.4	90.7
Molybdenum ..	Mo	95.9	95.9				

* Elements which are or have been used in any form in photographic processes are distinguished by an asterisk. Other elements may be used in new processes.

This list is in no sense final. We are as yet unacquainted with a considerable part of the earth's surface, and we know almost nothing of the composition of the earth's crust to a greater depth than two or three miles, and therefore it is highly probable that new elements will be discovered. In fact, not a year passes without the discovery of two or three new elements being announced, but these alleged discoveries are not always substantiated. It is also quite within the range of probability that some of the bodies now regarded as elements will prove to be compounds when we acquire more powerful methods of decomposition, such as higher temperatures or stronger electric currents.

Opposite the name of each element is its *chemical symbol*, consisting, as a rule, of the initial letter of the name, or the initial letter and some other letter which also occurs in the name. A symbol consisting of one letter is given only to elements which are very abundant or important. In order that the same symbols may be used by chemists all over the world, they are taken from the Latin names of the elements, and not from the English names. It follows that where the English and Latin names differ, the symbol may not consist of letters which occur in the English name. This happens to be the case with many elements which are used in one form or another by photographers, and therefore a list of them will be useful: antimony=stibium; copper=cuprum; gold=aurum; iron=ferrum; lead=plumbum; mercury=hydrargyrum; potassium=kaliu; silver=argentum; sodium=natrium; tin=stannum; tungsten=wolframium. It is also noteworthy that all these elements were known at a comparatively early stage in the history of chemistry.

The symbols of the elements constitute a very convenient chemical shorthand, the use of which will be explained more fully later; the significance of the numbers placed opposite each element will also be explained.

The names of the elements sometimes have reference to their mode of occurrence, sometimes to one of their most pronounced properties; in many cases they are purely fanciful.

Most of the elements are solid at the ordinary temperature; two, mercury and bromine, are liquid; five are gases—chlorine, fluorine, hydrogen, nitrogen, oxygen. They are generally divided into two groups, *metallic elements*, or *metals*, and *non-metallic elements*, or *non-metals*. All the common metals—iron, copper, lead, tin, zinc, silver, and gold—are elements; and all the other elements which resemble them in physical and chemical properties—i.e., have a metallic lustre, conduct heat and electricity, and form oxides which can neutralise acids—are likewise classed as metals. All the metals are solid, with the exception of mercury, which is liquid at the ordinary temperature. The gaseous elements and others, such as sulphur, carbon, and phosphorus, which have none of the appearances or properties of metals, are classed as the non-metallic elements. They are fifteen in number, viz., arsenic, boron, bromine, carbon, chlorine, fluorine, hydrogen, iodine, nitrogen, oxygen, phosphorus, selenium, silicon, sulphur, tellurium.

The division into metals and non-metals is not sharp and well defined; some elements are decidedly metallic and some are decidedly non-metallic, but there are others which have some of the properties of non-metals and some of the properties of the metals. These form connecting links between the two divisions; arsenic, antimony, titanium, tin, and vanadium are amongst the best known cases.

The chemical elements are the materials from which all the various forms of matter are built up by the process of chemical combination or synthesis.

Chemical combination is the union of two or more substances to produce a new substance of more complex constitution.

Notice that this definition includes not only the union of elements to form compounds, but also the union of two or more compounds to produce one of a more complicated character.

We must now ascertain the conditions under which chemical combination will take place, and the laws by which it is regulated.

Whether elements will combine or not depends in the first place on their nature. As a general rule, we may say that the more dissimilar two elements are, the greater is their tendency to combine. Non-metals combine with

metals more readily than they combine with one another, but to this rule there are many exceptions. Definite combination between two metals is rare. Some elements show very great chemical activity, and readily form combinations of various kinds, but others, both non-metals and metals, but especially the latter, show very little tendency to enter into combination at all, and form compounds which are very unstable and easily decomposed.

Chemical combination, in fact, depends, in the first place, upon the existence of a peculiar force of the nature of an attraction, which we call *chemical attraction* or *chemical affinity*, and so far as our present knowledge goes the different elements are endowed with this force in very different degrees.

It depends also on the temperature. In many cases combination takes place at the ordinary temperature as soon as the substances are brought into contact; chlorine and bromine, for example, readily combine with many metals; recall also Experiment 13.

In many instances, however, the substances must be heated before combination will take place. We have found this to be the case with copper and sulphur (Experiment 22), and we shall meet with many other examples later on. Heat is, in fact, one of the most useful agents in promoting combination as well as in producing decomposition, an apparent contradiction which will become more intelligible when our knowledge of the subject reaches a somewhat more advanced state. It is found that some substances will combine readily enough at the ordinary temperature, but will not unite if they are strongly cooled by means of a freezing mixture.

In some cases combination is caused by the action of light; chlorine and hydrogen will not combine at the ordinary temperature in the dark, but combine gradually in diffused daylight and rapidly with explosion in bright sunlight.

Latterly experiments have been made which seem to show that in some cases at least the combination of two substances is dependent on the presence of a third body, which however does not itself permanently enter into the compounds which are formed. This point and the action of light will be discussed more fully subsequently.

(To be continued.)

Photographic References.

BY MAJOR J. FORTUNÉ NOTT.

APPARATUS.

(Continued from page 219.)

Camera Case.—Purchasers of a photographic outfit are recommended to pay some attention to the case in which it is to be carried, or probably their subsequent practical experience may cause them to regret the oversight. Some definite idea of the principal work for which the camera is being procured, and of the circumstances under which it may have to be employed, should be formed before any decision on the subject is arrived at. If the camera is intended chiefly for studio work, then the material and shape of the case are details of small importance, but if it is designed for landscape work or to be an accompaniment of one's travels, then they become sufficiently momentous to deserve consideration. The size of plate it is intended to employ is also a feature not to be overlooked. For any of the smaller sizes a neat leather or strong waterproof case with a shoulder strap is a serviceable article, but for any of the larger sizes, the weight of a leather case renders it

undesirable. Moreover, the solid leather cases the dealers in photographic appliances frequently recommend are not only cumbersome and heavy, but often unnecessarily expensive, in some instances the prices quoted being more than sufficient to elsewhere purchase a good sized portmanteau. It must be remembered, however, that cases made of waterproof cloth or other pliant material, although being everything that can reasonably be desired on the score of lightness, yet lack the requisite strength to afford the protection required if any rough usage has to be encountered, or for which provision has to be made.

As no suitable material is available whereby the requisite strength can be found in combination with the requisite lightness, it is a good plan to have two cases, one for ordinary occasions and the other where portability is the principal consideration.

After considerable experience in the matter, we unhesitatingly recommend the following plan in the event of an extended tour being contemplated. Purchase a waterproof canvas bag leather bound, such as the Army and Navy Stores manufacture, large enough to hold the full kit and having outside straps. The camera and all the necessary appurtenances can be packed for travelling in a portmanteau, and the clothes or other articles they displace can easily be accommodated in the bag. In this way the fragile portion of the apparatus receives the necessary protection at the time it is required. When the place is reached at which the camera is wanted for use, it can be transferred to the bag, and as this receptacle is made of the very lightest material possessing the necessary durability, the kit is in as portable a form as it is possible to have it. The outside straps can be employed in strapping the tripod to the bag, and in this way one article only has to be carried, which enables a certain amount of relief to be obtained by alternately shifting the burden from one arm to the other.

As the weight of a photographer's kit should be within such limits that it enables him to be independent of assistance, if necessary, when it has to be carried any distance, it is under certain circumstances a good method to have the means whereby it can be divided into two or more packages; a focussing cloth of good dimensions, as previously recommended, and a rug strap can be easily utilised for this purpose; or, if the excursion is a pedestrian one, over mountainous ground, it is well to bear in mind the fact that the heavier portion of the apparatus can be easier carried on the back in a light knapsack of waterproof material than in any other manner. Another fact that should never be lost sight of when arranging an excursion, is, that whether the kit has to be carried by the photographer or by some one engaged for that purpose, it is only an exceptionally strong man that can carry for any distance a weight exceeding fifteen pounds if care has to be exercised in its handling. This circumstance should therefore be a guide to the maximum weight of the whole *impedimenta*, for if it be exceeded the equipment practically ceases to be a portable one.

As it is unwise to always rely upon the memory, an inventory written out on a small card of all the articles the bag should contain to make the kit complete should be kept in an available place and be referred to when packing.

Lenses.—Reference will be made in a subsequent division of these articles to the various makes of lenses, and other matters thereto relating.

Remarks concerning Photographic Apparatus.—In the foregoing pages devoted to the subject we have called attention to all the absolutely necessary pieces of apparatus which must in some form or another become part of a photographer's outfit before he can be considered to be in a position to commence making negatives. We have also endeavoured

to assist him in making his selection among the various patterns by pointing out the features that should be deemed requisite. The next subject that will engage his attention will be the dark-room and the sensitive plates he proposes using. These features of photography will therefore be referred to in chapters specially devoted to them. We purpose, however, before quitting the subject of apparatus, to refer to sundry articles, which, although not absolutely necessary, are, nevertheless, under certain circumstances, of great utility, and with whose use the photographer should therefore be familiar.

It may, however, be as well to state, for the benefit of the inexperienced, that it is not wise to rely upon the employment of appliances which cannot be classified among those as absolutely essential. Even where they are of considerable use, yet it is well to learn how to dispense with their services. The photographer who can reduce his *impedimenta* to the fewest pieces, and work with the most simple mechanisms, is the one destined to find the most pleasure in the employment of his camera. In all probability, he will also do better work than one possessed of every possible implement that can be required under any given contingency, and whose camera is supplied with every conceivable convenience its ingenious manufacturer could devise. The camera being simply the means to an end, the possession of an elaborately beautiful article no more constitutes a good photographer, or necessitates good work, than a gorgeous shooting coat will mak a sportsman or preordain its owner having a good aim. If a camera has those features to which we have referred as being essential, its possessor, never mind whose make it is, can feel assured that just as good work can be done with it as can be done by the owner of the most expensive article the manufacturers can supply.

Every piece of apparatus belonging to the equipment should be periodically examined, to see that it has not sustained injury and for the purpose of remedying any defects that may be found to exist. The proverb that inculcates the lesson to be drawn from the statement that "a stitch in time saves nine" is more than applicable to the possessor of a photographic kit, for minute defects therein have not only a tendency to rapidly increase, but may in themselves defeat the most carefully matured and skilfully executed plans of the photographer. A slight unobserved warping of the woodwork, an accidental puncture by a projecting screw, unsuspected moisture through being stored away in a damp place, a blow or the dropping of a lens, and various other, in themselves, trifling incidents, are yet, to a photographer, events that may be charged with the direst calamity to the work of a laborious day, for if unremedied, any one of these accidents may mar all his otherwise painstaking efforts at negative making.

(To be continued.)

Our Contemporaries at Home and Abroad.

The *British Journal of Photography*, in an article on "A Substitute for Hypo as a Fixing Agent," says, "The difference would be just this: In the hypo-fixed prints, whether insufficiently fixed or insufficiently washed, the impurity remaining in the print would be a sulphur compound, and as such liable to produce in decomposing, not only yellowness of the whites of the prints, but also true fading, or partial disappearance of the image from its conversion into a sickly yellow sulphide. Exposure to light has never, so far as we are aware, been observed to produce any darkening effect on such imperfectly treated proofs, though, of course, ordinary atmospheric influence may be expected to hasten whatever action may be lying dormant. In the case of a chloride-fixed print, whether imperfectly fixed or

insufficiently washed, the resulting impurity would consist of a soluble double chloride of silver and the base of the fixing salt. Imperfect fixation would of course leave more or less unaltered silver chloride, and this, as well as the double salt formed on fixing, would remain amenable to the action of light, and the deterioration of the print, when it occurred, would partake of a general darkening rather than yellowing or fading. Indeed, if protected from all access to light there is little reason to suppose that such prints would undergo any serious deterioration; as neither the pure silver chloride nor the double salt is particularly liable to spontaneous decomposition. It is even possible that an imperfectly treated proof by this method of fixing might, at any subsequent period, be placed in a position of safety by repeating the various operations, provided of course that no signs of incipient change had made their appearance." Articles: "Painted Photographs," "The Art of Retouching," "On Things in General," "A Powerful and Uniform Source of Illumination," "On Some Effects in Binocular and Monocular Vision," "A Farther Note on Eikonogen," etc.

The *Photographic Record* says, "It is well known that the tone of transparencies is affected by a prolonged or short exposure and development, but that the colour of prints is to some extent dependent upon the weakness or strength of the gold toning bath is not so widely recognised. A toning bath that works rapidly will give blue tones; one that works slowly, red or brown tones. This comes from the fact that fine metallic gold precipitated rapidly is a decided blue colour, while gold that is precipitated slowly is red. It therefore follows that to give a purple tint to albumen prints, the original washed prints should be a little reddish, and a gold toning bath should be used that works rapidly. If, on the other hand, reddish or brown tones are desired—as for landscapes—then a slow-working gold bath should be used. We may add to the foregoing, as all experienced photographers know well, that to simply use a strong solution of gold will not in itself ensure the production of the purple tones which are so often admired; the gold being but one of the component points to be taken into consideration. The substance used as an inductor to the gold, the depth of printing, the make of sensitised paper used, the fixing bath, and even the quality of the negative are all constituents affecting the end sought." Articles: "Binocular Vision and the Stereoscope," "Photographic Survey," "The Annual Exhibition," "The Lantern Slides."

The *Photographer* (Glasgow) says, "To ensure success in the production of palladium prints, nothing is required but to print deeply and wash thoroughly, to use a very dilute and slightly acid solution of the palladous salt, and fix in 'hypo' containing just enough ammonia to smell of it, giving each batch of prints a new bath. The finished print has somewhat the appearance of a drawing in India ink, especially if done on Whatman's paper. Palladium is a rare metal; its price is quoted in a list I have by me at 25s. per drachm, while the solution of palladous chloride is 3s. per ounce. But considering the minute quantity used in the production of a photographic print, the price perhaps is of little consequence. I am aware that the method of procedure is not new, but the use of palladium in 'toning' is, I believe, a novelty." Articles: "Dry Plate Photography for Beginners," "Photography on Glass, etc.," "The Practical Printer," etc.

The *Practical Photographer*, in an article on "Photography as a Business," says, "The dark-room, then, should be as large as you can afford; not less than 10 feet by 8 feet, but nearly double that size if possible. There should be plenty of table room and two Doulton sinks. If, however, there is room for one only it should be large. Air should be admitted through the floor as well as high in the wall or ceiling. There are plenty of light-obscuring ventilators to be had now. The window should admit three degrees of light. White light, over which should slide a frame containing ruby glass covered with yellow paper or fabric. This should give ample light, moderately safe for ordinary plates, but there should be another ruby glass provided in an additional slide to add to the normal light when isochromatic plates are employed, and they are coming daily more into use. This slide should be made easily movable, as it may be dispensed with towards the end of development." Articles: "Photographic Travellers," "Celluloid and other Films," "The Stephen Grey Fund," etc.

The *Photographic Art Journal*, in speaking of "The Reduction of Over-Dense Negatives," says, "The best method of procedure

is as follows: Take the quantity required to cover the negative to be reduced, of the ordinary hypo fixing solution, which may be assumed to be about 1 in 5. Add to each ounce of this, before immersing the negative in it, about three or four drops of a saturated solution of the red prussiate. The negative is immersed in this, and the dish rocked, when the density of the negative will be gradually removed; if a white porcelain dish be used, the action can be more easily followed. If the reduction slows, add a few more drops of the ferridcyanide, when it will make a fresh start, and so by gradual and tentative additions the reduction will proceed equally, and be perfectly under control. When a sufficient loss of density is effected, the negative has simply to be well washed to free it from the hypo solution, and the process is complete. Any amount of reduction can be effected down to absolutely bare glass, by increasing the quantity of the ferridcyanide, and by the aid of a camel's-hair brush, local reduction can be most successfully effected. When the reduction is very local in character, such as the removal of halation or the toning down of a too white garment, perhaps the best procedure is to paint over the parts that are to be reduced on the *dry negative* with the plain hypo solution, and it is then quite easy to accurately follow outlines. When the gelatine has imbibed the hypo, a drop or two of a weaker solution of the ferridcyanide is added; this instantly flows over the wetted part only, and the reduction is effected there equally. The advantage of this method of procedure lies in the fact that if the mixed solutions were applied at once, they would commence to attack the spot to which they were first applied, and the reduction would be unequal; whereas by first applying the hypo, the action is uniform only on the wetted parts. When the local reduction is considered sufficient, and if the first addition of the ferridcyanide does not do its work, more should be added; the spot should be suddenly sluiced with a good discharge of water; by this means the reducing solution is instantly washed off the plate before it has time to attack the other portions of the negative." Articles: "Exhibition Regulations," "Residues," "What to Do," "Control in the Density of Negatives," "On one or two Tenets of the Naturalists," "Photographic Convention, 1890," "Lecture on Colour and Photography," etc.

Science Notes.

THE appearance during the last three or four years of claimants for the honour of having discovered "photography in natural colours" reminds us of that arch humbug Levi Hill—the *Reverend* Levi Hill, as he loved to style himself—who "played it off" so successfully on the professionals of the United States forty years ago.

Hill announced his success in 1851, and exhibited his specimens (they were daguerreotypes which he had cleverly coloured by hand) to Morse, Root, and other well-known operators, obtaining from several of them, strange to say, testimonials in favour of his claim. He was a good daguerreotypist, a fluent talker, and a ready writer, and when he announced his intention of publishing his "great discovery" in a book—"for subscribers only"—the dollars flowed in freely.

Year after year passed, but no book appeared, for Hill was engaged in "perfecting" his discovery. At last the reproaches and threats of the public became unbearable, and Hill's book appeared in 1856. It is chiefly a *rechauffé* of the work of Hunt, Herschel, Becquerel, and Niépce de St. Victor, but it *does* contain a chapter purporting to give an account of Hill's own method of photographing in colours.

No human being, however, could possibly survive to put a plate through all the operations described in that chapter! To say nothing of the involved and obscure language employed, the rare chemicals named as to be used, and the multiplicity of operations required would exhaust any half-dozen average photographers. "One down, another come on."

But Hill had (so he said) done all that he had promised. He had published his book. There was his method, and if his subscribers could not succeed with it as well as he had done, it was their fault and not his. After this achievement the Rev. Levi Hill lapses into obscurity, but we have a record of his death in New York in 1865. He has not lacked imitators to keep his memory green.

Talking of *green*, that is the very colour which the Austrian "colourist," Herr Veresch, finds himself unable to reproduce in his photographs in natural colours. Why does he not apply to the correspondent of the *Standard*, who appears to possess a stock of the commodity, judging by his telegrams with reference to this latest "discovery"?

What apparatus to take when "on tour" is the question which appears to have been most discussed by workers preparing for the Easter holidays. For my own part I have selected a light whole-plate camera with four double-backs, and a hand-camera carrying twelve plates in sheaths. The total weight, with tripod, comes to twenty-four pounds, and I can manage this by myself if necessary, but I generally enlist the services of some native "to the manor born," who also comes in useful as a guide and as a model.

I spent an afternoon with my hand-camera at a football match recently, and with the following results: Plates exposed, twelve; of which four were good, four were fair, and four failures. This is about the average for such work. A "release" attached to the detective camera—as a stud which should require only a slight pressure—is much better than a pneumatic tube and bell. The latter wants a third hand to work it; and the only way of obtaining this addition that I know of, is to put the ball into the mouth—not always a pleasant dodge.

It is my belief that half the "total failures" recorded by the ordinary amateur are due to over-exposure plus under-development. At this time of the year half a second is full exposure for rapid plates on "ordinary landscape" with stop $f/32$, while with ordinary plates not more than one second should be given. And in developing, begin with a weak solution, and gradually strengthen it, allowing the plate to remain in the dish till the image is "well in" and opaque—or nearly so—by transmitted light, while the surface is a greyish-black all over by reflected light.

Herr Liesegang's proposal to use magnesium chloride instead of hypo, for the clearing of our gelatine plates, is well worthy of a trial. Ordinary common salt—sodium chloride—will clear a plate, but at the same time somewhat reduces the image. In either case the necessity for subsequent washing is not done away with, as if either chloride be left in the gelatine, it will absorb moisture from the air and keep the surface of the plate damp—a result which is not likely to be conducive to permanence.

The Eastman Company has purchased seven acres of land near Harrow, a few miles out of London. Here the new rollable celluloid film for the "Kodaks" will be manufactured, and the Kodaks themselves, in all sizes, up to 7 by 5, will be made. In this way not only will the delay which has often been experienced in obtaining supplies from the American factory be obviated, but the import duty on the raw material at present paid when entering the States, and the expenses of carriage both ways, will be saved.

In connection with the meeting of the Photographic Convention at Chester in June, an enthusiast proposes an excursion to the top of Snowdon. This would require, however, the better part of two days. Still, the suggestion shows a laudable desire to "elevate" the Convention, and to give its members an opportunity of rising in the world. The last time we made the ascent, we left our whole-plate camera at the foot of the "hillock;" but a light camera would have been a very desirable companion, and would have enabled us to perpetuate some of the views opened up to the weary pilgrims on and near the summit.

F. G. S.

TUNBRIDGE WELLS AM: PHOT: ASSOC:—On the 2nd inst. the members of the above association invited their friends to view the Boston lantern slides. Mr. G. Percival Smith, who presided, stated these slides had been made by the members of the Boston Camera Club (U.S.A.), and presented by them to the Liverpool Association. Mr. A. W. Pierson kindly exhibited them with his oxy-hydrogen lantern, the Hon. Secretary reading the lecture. Afterwards Mr. Pierson passed through the lantern a miscellaneous selection of slides, including some of the members' slides, and some made by himself by collodion process. Since the last meeting Sir David Salomons, Bart., has most kindly sent the association one of his slide rules, and also some copies of his "Photographic Notes," for distribution among the members, and his "Systematic Exposure Note Books."

Notes from Liverpool.

(From our District Editor.)

MR. PAUL LANGE, President of the Liverpool Amateur Photographic Association, who is to open the Newcastle Show on the 18th inst., has been asked to give his charming lecture, "Norway," on the occasion. He will be supported by the Mayor and a distinguished company. It may not be generally known that Mr. Lange is one of the judges at Newcastle.

"Amateur" writes to a Liverpool contemporary deprecating the attack of Mr. A. W. Beer, an ex-President of the Liverpool Society, on Mr. Lange. But "Amateur" need not have gone to the trouble of a retort. Mr. Beer's petulant communication to the paper in question was generally accepted as most grotesque and amusing.

A large contingent of Liverpool amateurs availed themselves of the opportunity during the holidays to continue their studies afield. Wales was a favourite resort.

It is stated, by the way, that in the course of the coming season the Isle of Man will be well "jaunted" and "done" by northern and midland amateurs.

A Big "Developing" Night at Liverpool.—On Wednesday night last week "Development" was the subject of practical demonstration at the Liverpool rooms. Between sixty and seventy members were present, and the meeting, which was very useful, lasted nearly three hours.

Mr. J. A. Sinclair led with remarks to the effect that while he was anxious not to "scare" beginners with abstruse chemical formulae or difficult scientific problems, yet it was desirable that something should be known of the action of light on a photographic plate, and also what was the aim of development. An intelligent grasp of the subject obviated much groping in the dark, and tended directly to greater success in the art of photography. Suppose, after the exposure of a plate in the camera, no change had apparently taken place. Again, suppose it were coated with a film containing bromide of silver. The light had a decomposing action on such a film, and a proportion of the bromine was given off. The actual composition of the reduction product which formed the invisible image was not clear. The next step was to make the image visible, and to this end a compound that acted on the portions exposed to light different to that on the portions not so exposed must be used. An alkaline solution of pyrogallol acid would quickly reduce the invisible image to metallic silver. But such a solution would not only reduce the invisible image but also, in less degree, the unaltered silver bromide in the film. To prevent this it was necessary to use a "restrainer." Such a substance was bromide of potassium, which it was believed formed with the unaltered silver bromide a more stable compound. He was inclined to the opinion that in increased quantities this "restrainer" united to some extent with the reduction product which formed the invisible image. An eminent chemist, however, had recently stated that it had no such action. It had been his (Mr. Sinclair's) experience that an over-exposed plate could be considerably modified by a restrained developer. The reduction product on the surface of the film did not supply all the silver deposit on the finished negative; but they need not go deeper into the subject at that stage. Whatever developer was chosen, the operator should fully understand it. With the "pyro" developer it was important to remember that the pyrogallol acid was the reducing agent, and that its action was accelerated by the alkali and restrained by the bromide. For negatives he did not consider anything could equal pyro and ammonia for all-round work. It did not give pretty negatives but such as were suitable for good prints in silver or platinotype. The powerful nature of the alkali makes it more serviceable than washing soda for work rather under-exposed.

Mr. Illingworth afterwards spoke on "Hydroquinone," and Mr. Lange on "Pyro and Washing Soda." Negatives were developed by each of the processes, much interest being evinced in the operations. The subject is to be continued next Wednesday, 16th inst., when Mr. W. Tomkinson will take the chair.

Liverpool Exhibition, 1891.—Writing late, our District Editor sends us a few of the new and more important features in connection with the conditions, etc., affecting the contemplated show in Liverpool.

Pictures from outside the United Kingdom may be sent unframed, packed in boards. These will be framed temporarily free of cost.

There will be no charge for wall space.

The name of the exhibitor, with the title of the exhibit, must appear plainly on the picture, mount, or frame; and thus, as nearly every known worker of standing has his own style, "as it were almost a trade mark," the restriction hitherto in force is abolished.

No prizes or medals will be admitted except those struck off the dies of the Liverpool Amateur Photographic Association.

Pictures of any description which have been previously exhibited in public competition in the United Kingdom will not be allowed to compete. Exception will be made in favour of the Photographic Society of Great Britain as regards the Parent Society's (1890) Pall Mall Exhibition, and private exhibitions confined to members of Photographic Associations will not count as public competitions or exhibitions.

Lantern slides must be sent in duplicate. One set will be exhibited on the tables, for which, free of charge, special frames and proper lighting will be arranged. The second set will be used on the screen for judging, and occasional demonstration during the run of the exhibition.

Photographs must be the *entire* work of the exhibitor: "posing, or selection of subject, exposure, development, retouching, printing, and toning."

In the case of firms, or companies, the exhibitor must be the single individual (working partner, assistant, etc.), the actual operator who has done the entire work.

A special class will be ascribed to hand-camera work. This it is intended shall be open to both amateur and professional workers.

The above will show the tendency at Liverpool. In our next issue we shall probably give more details.

The Competition Stereoscopic Slides lent by the AMATEUR PHOTOGRAPHER to the Liverpool Society are excellently placed in the society's room, where they command much interest and admiration.

The Liverpool Society holds an Official Lantern Evening in the City Hall, Eberle Street, next Monday. Part I. will consist of the showing of 150 slides, scenes in the "Hundred of Wirral," taken by members of the Liverpool and Birkenhead societies. Mr. John Hargraves will lecture thereon. In Part II. a series of scenes in the "White Mountains," lent, and matter supplied by the New Boston Club, U.S.A., will be shown.

On Saturday next the Liverpool members have an excursion to Rabymere, one of the most rustic and picturesque parts of Cheshire.

"Thursday Evenings" at the Camera Club.

BY ONE OF OUR STAFF.

ON Thursday, March 27th, Mr. W. Willis read a paper entitled "Platinotype Possibilities." Captain Abney occupied the chair.

Previous to the lecture, Mr. Chapman Jones exhibited and described his Memorandum camera, and Mr. Ferrero showed a convenient apparatus he had constructed for reducing to lantern-slide size.

Mr. Willis's address covered the following points: (1) A mixed oxalate, a phosphate developer for the hot-bath process, and the quality of image resulting therefrom; (2) A developer for sepia paper to give a warmer colour; (3) Hints as to washing prints; (4) Effects to be gained by the use of papers of various surface and texture; (5) Application of the cold-bath process to fabrics. Some of these heads were illustrated by examples, more especially that relating to fabrics and rough-surfaced paper.

An interesting discussion followed, in which Captain Abney, Messrs. Greene, Davison, Wellington, Cembrano, Elder, Ferrero, Humphrey, Chapman Jones, and Clark took part.

On Thursday, April 3rd, lantern slides by members and friends were shown, the contributors to the exhibition being Messrs. Ferrero, Cembrano, Wellington, Webber, and Grimshaw.

On Thursday, April 17th, Mr. W. Adcock will open the subject "Amateur and Professional," for discussion.

Societies' Meetings.

BEDFORD AND DISTRICT CAMERA CLUB.—At the adjourned general meeting held on Wednesday, the 2nd inst., the following gentlemen were elected on the Committee—Mr. T. G. Bryant, Mr. W. O. Kirby, Captain G. C. Swan, and Mr. C. E. Wareing. Mr. R. P. Stuart showed those present some of his photographs taken abroad, and Dr. Beaman showed some work done with the Kodak, which were much admired.

BRECHIN PHOT. ASSOC.—The usual monthly meeting of members and friends of this Association was held on the 2nd inst. In the absence of the Vice-Presidents, Bailie Lawrence occupied the chair. The President, Mr. Adamson, Causton Castle, read a paper on "Hand-Cameras." From his wide experience with these, he was well able to give hints as to the movements which were necessary and convenient in these instruments. He advised doing away with all forms of double backs, as necessitating too much trouble changing between exposures. For general convenience, Rouch's Eureka was a good camera. He deprecated the use of fixed-focus lenses for general work. View-finders were very useful sometimes, but not at all necessary; indeed, they were occasionally harmful, as one's eyes were on them when they should have been observing the subject. He strongly advised all those going in for this class of camera to spend their money on the lens, and not on the dark-box, treating also on the various classes of lenses which could be used, and giving their respective advantages and defects. The conclusion he had come to was that for a quarter-plate camera a lens of from $4\frac{1}{2}$ ins. to 5 ins. focus was the most useful. A camera made to his own specification by Mr. Hume, of Edinburgh, was to have been exhibited, but it had not come forward in time. A few cameras were shown and explained to the meeting, including Shew's Eclipse, the Kodak, Mayfield's Pocket Camera, and Underwood's City Detective. Hume's cantilever enlarging apparatus was also on exhibition, and was much admired for its compactness, good workmanship, and reasonable price. Messrs. James Smart, manufacturer, and Chas. Mitchell, jun., were admitted members.

JERSEY AM. PHOT. SOC.—At a meeting held on the 2nd inst., the following members were elected to hold office during the current year: President, Captain T. Lamb; Vice-President, Alfred Messervy; Council, Mrs. Haddon Smith, Messrs. J. H. Burcham Rogers, J. Andrews, F. W. Toms; Treasurer, George Le M. Gruchy; Secretary, Dr. H. Cumberland Taylor. Notice was given that Mr. Burcham Rogers would commence a discussion on "Printing Processes" at the next informal meeting, to be held on the 16th inst. at 3 p.m. An excursion was arranged to take place on the 10th inst. under the leadership of Judge Messervy to the beautiful and ancient Manoir de Saint Onen, kindly permitted by its owner, Col. E. C. Malet de Carteret. After having decided on a list of the leading photographic periodicals to be regularly taken in for the reading room, the President called upon Dr. Taylor, the Secretary, to give an address on "Field Work." He began his discourse by enumerating the various apparatus necessary, and then proceeded seriatim with a description of each, pointing out advantages and defects in construction, management of the swing-back, both for architectural objects and for portraiture, the various lenses in use, stops and their focal values, with especial reference to the selection of a stop for a given subject. He then described the relative positions and proper places for the principal, the secondary, and the subordinate objects in a well chosen picture, demonstrating the manner of properly focussing foreground, mid-distance, and extreme distance, giving the best position for line of horizon, and explaining the pyramidal grouping, arrangement on the diagonal, and balancing point of the picture. The uses of view finders and of view meters followed, and a beautiful specimen of a meter, constructed specially by Mr. Dallmeyer, was exhibited to the audience. Dr. Taylor produced a very fine rainband spectro-scope, made by Mr. Browning, the optician in the Strand, which he said in skilful hands gave much valuable indication of the hygrometric state of the atmosphere as well as of the clearness and actiniccy of the light, both for exposures and for printing purposes. The address was followed by a lantern exhibition of slides made by the President and exhibited by the Vice-President and Treasurer, arranged to illustrate the various errors likely to be committed by beginners, and which had already been alluded to by the lecturer in his address. The usual vote of thanks having been proposed to the lecturer and duly seconded, the latter briefly acknowledged it, and the proceedings terminated.

KEIGHLEY AND DISTRICT PHOT. ASSOC.—On the 1st inst. an address was given to the members of the association, in their rooms, by the Rev. T. Mellorey, M.A., the subject being "Hints on Photographing Interiors," with reference chiefly to church architecture. With regard to the light, the lecturer considered a rather dull day was best, and a south or south-west light most suitable. The east window was sometimes a trouble, owing to the excess of light causing halation. Two plans were suggested for softening the light: (1) darkening the outside of the window with sheeting, (2) taking a separate negative of window with an exposure of a few seconds, and resorting to double printing. If the light from the side windows be too strong, a judicious placing of the camera might interpose pillars between windows and lens, and so shut out the glaring light. The best lens was one of the rectilinear type, having a focus equal to the length of the plate; but in cramped situations, and for monuments, etc., a wide-angle lens was a *sine qua non*. Care should be taken to have the camera perfectly level and the swing-back absolutely vertical, or falling pillars would be the result. With regard to exposures, the lecturer gave his experience, varying from 12 to 45 minutes, and explained that it was sometimes necessary to prolong the exposure even beyond an hour. It was seldom advisable to use a smaller stop than $f/32$, and for focussing it was a safe plan to select a well-lighted object in the middle distance, and then stop down. To obtain a view to embrace nave and east window the camera should never be placed in the centre of the aisle, but at one side, with lens slightly pointing to the opposite side. Slow development was strongly recommended as giving the best results for interior negatives, and as a means for avoiding harsh contrasts. The amount of pyro should be slightly reduced at the beginning, and the developer strengthened when the details were well out. At the close the lecturer invited the members to ask questions on what he had said or upon anything he had not touched upon. Several members availed themselves of the invitation, and an instructive discussion followed.

LEWES PHOT. SOC.—The ordinary meeting was held on the 1st inst., the President in the chair. Mr. E. Miller had promised to open a discussion on "Pinhole Photography," but owing to indisposition was unable to be present, and Mr. G. J. Wightman kindly took his place. A very interesting discussion ensued, and specimen negatives and prints were passed round for inspection. The Society is about to commence a photographic survey of Lewes and environs, to be carried out as far as possible during the coming summer, and it is intended to produce a set of lantern slides which can be sent to any other society in exchange for a similar set. The first excursion of the season will be to Newhaven, on April 24th. At the next meeting on May 6th, Mr. J. J. Hollway will read a paper on "Cloud Photography."

METEOROLOGICAL SOCIETY.—The ordinary meeting was held on the 19th ult., Mr. H. F. Blanford, V.P., in the chair. The following papers were read: "A Brief Notice respecting Photography in Relation to Meteorological Work," by Mr. G. M. Whipple. The first person to use photography for obtaining meteorological records was Mr. T. B. Jordan, of Falmouth, in 1838. Some years later Sir F. Ronalds and Mr. C. Brooke devised more elaborate apparatus, the arrangement of the former being now in use at the observatories of the Meteorological Office, and that of the latter at Greenwich. Reference was also made to Mr. T. B. Jordan's form of sunshine recorder, and to Captain Abney's photo-nephograph. The various photographic processes which have been employed in connection with these instruments were fully described. "Application of Photography to Meteorological Phenomena," by Mr. W. Marriott. The author showed how photography could be most usefully employed for the advancement of meteorological knowledge. After the reading of these papers the meeting was adjourned, to allow the Fellows to inspect the exhibition of instruments, etc., illustrating the application of photography to meteorology. Specimens or drawings of nearly every photographic meteorological instrument and records from the same were shown, and a collection of photographs of clouds and other meteorological phenomena. The photographs of clouds taken by M. P. Garnier, of Boulogne-sur-Seine, were exceptionally fine. A number of new meteorological instruments were also shown, as well as an ingenious working model devised by Mr. A. W. Claydon for showing the connection between the monsoons and the currents of the Arabian Sea and the Bay of Bengal.

REDCAR AND COATHAM PHOT. ASSOC.—The general meeting was held on the 1st inst., for the election of officers. The

AMATEUR PHOTOGRAPHER Competition Photographs were on exhibition, attracting an unusually large attendance of members. The many fine pictures among this collection were much admired.

ROSSENDALE PHOT. ASSOC.—On the 31st ult., under the auspices of this Society, a large number of persons assembled in the Club Rooms, at Rawtenstall, to see the **AMATEUR PHOTOGRAPHER** "Enlargements." The President said, "Whatever might be said against trade medals, there is this to be said in favour of the **AMATEUR PHOTOGRAPHER** Competitions, that to the Society who have them placed at their disposal they form a great attraction, and provide an opportunity for a little social chat, whilst the quality of the work is not below par." During the evening a series of papers on "Printing Processes, with Demonstration," were delivered as under:—Ferro-prussiate, Mr. Jos. Ashworth; silver printing, Mr. W. Chadwick; platinotype, Rev. N. W. Shrewsbury; aristotype, F. W. Pilkington. Mr. Ashworth dwelt on the chemical changes which took place, whilst the other gentlemen directed attention to negatives to which the respective papers were more especially suitable. The next meeting is to be an exhibition of cameras, with tests for rapidity in setting up and packing of them, together with a discussion on the advantages and disadvantages of each piece of apparatus exhibited.

SHEFFIELD PHOT. SOC.—The usual monthly meeting of this Society was held at the Masonic Hall, on the 1st inst., when it was agreed that the first excursion should be to Bolton Abbey and Woods. In reference to the late exhibition for the benefit of the Sheffield Hospital building fund, it was announced that the net amount to be given was £10 10s., along with £1 2s. 9d. given by Miss Doris Taylor. Mr. T. Hibbert laid on the table some

prints produced by the new Kallitype process, which gave very satisfactory results, after which Mr. R. J. Shields, of Mexborough, gave his paper. Subject: "Notes on a Tour in Norway." After passing a hearty vote of thanks, the meeting, which had been a very enjoyable one, terminated.

SOUTHSEA AM. PHOT. SOC.—An ordinary meeting was held on April 2nd. Lieut. F. W. Cobb, R.N., occupied the chair. The Chairman spoke of the success of the recent lantern-slide exhibition, and said the society had been asked to give a joint entertainment with the Minnesingers during the first week in May, in aid of the funds of the Eye Infirmary. It was decided that the Chairman should make the necessary arrangements, and that the Committee would assist. The Hon. Secretary then read a paper on "A Method of Obviating the Effects of Halation and Local Over-exposure in the Development of Negatives and Bromide Prints."

WOLVERHAMPTON AM. PHOT. SOC.—The usual monthly meeting of this Society was held on Tuesday evening, the 1st inst., in the Agricultural Hall, Mr. F. J. Gibson in the chair. Messrs. Austin, Brevitt, and Curtis were elected as members. Mr. T. W. Derrington gave a paper on "Stereoscopic Photography." Slides and stereoscopes were handed round by the lecturer, including a set of views kindly lent by Mr. W. Whitehouse, Dudley. Mr. W. Ratcliffe showed a fine set of twenty slides of Peruvian scenery taken by himself in 1864.

CORRECTION.—CRYSTAL PALACE PHOTOGRAPHIC EXHIBITION.—The Managers write, "Will you please announce in your next issue that the award in Section 4, Lantern Division, was made to Fred. H. Evans, and that Mr. Wado's initials should have been J. W."

To Correspondents.

THE insertion of **QUERIES AND ANSWERS** is attended with much labour, and it is requested that the questions asked and the answers given shall be short and to the point. No charge is made. All communications for the columns are to be addressed to The Editor, "Amateur Photographer," 1, Creed Lane, Ludgate Hill, London, E.C.

RULES

1. Write clearly and distinctly on one side of the paper only.
2. Write each Query or answer on a separate sheet of paper.
3. Write the name and address legibly on the back of each communication, and sign all Queries and Answers with name or *nom de plume*.
4. All matters for these columns MUST be received by TUESDAY MORNING'S POST.
5. The Editors do not undertake to answer questions by post.
6. In answering Queries correspondents are requested to mention, in every instance, the number and full title of the query referred to.

QUERIES.

3679. **Hydroquinone, Sediment from.**—In mixing up Ilford developer for hydroquinone formula as given by them, I find a white floury sediment has settled in the bottle No. 2, caustic soda and water. Is this due to the water used (New River), and will it affect quality of developer to the injury of the plates?—W. GARDNER.

3680. **Ilford Plates and Hydroquinone.**—Using Ilford rapid plates and hydroquinone developer, I have twice lately had negatives spoilt by being spotted all over, as if they had had small-pox. Can any reader account for this?—OWEN.

3681. **Clouds on Bromide Paper.**—Is it an easy matter to print in clouds in bromide prints? Would someone kindly give me particulars, as there must be some way. It would be difficult work, I fancy.—COLONIST.

3682. **Lynton and Lynmouth.**—I am thinking of visiting the above places about the end of May. Will anyone who has been there kindly tell me if apartments are easily obtainable, and give me some idea of the price asked for them? Is there a dark-room available at either place?—HOLIDAY.

3683. **Lens.**—Can any reader of the **AMATEUR PHOTOGRAPHER** kindly inform me whether I can use Marion's rectilinear lens in Lancaster's International camera? And also whether it is a good lens for all-round work?—T. S.

3684. **Lancaster's Rubralux Lamp.**—I have one of these lamps, but can only obtain the dark ruby light, which is too dense for developing purposes, and not the ruby and dark ruby, as advertised. Is this an old lamp of this class? What shall I do to obtain a medium light?—M'GINTY.

3685. **Hydroquinone.**—I intend giving this developer a trial. Will any amateur inform me which is the best, Ilford or Thomas's?—M'GINTY.

3686. **Enlarging.**—Which is the best paper for enlarging purposes (taking into consideration simplicity), and formula for same?—M'GINTY.

3687. **Isochromatic Plates.**—When using Edwards' isochromatic plates for photographing oil paintings, please explain fully how yellow screen is to be used. Answer to this question, No. 3648 in your last number, April 4th, leaves me as much in the dark as ever. Surely J. A. Sinclair does not mean screen is to be between lens and picture; also what kind of a yellow screen must be used?—W.

3688. **Blue Prints.**—Will any kind amateur tell me how I can get the blue prints, and what developers I must use, and where I can get the best albumenised paper for it?—NOVICE.

3689. **Toning.**—I tone with carbonate of soda—1 gr. gold, 4 grs. carbonate of soda, 6 ozs. water—and there is a chalky substance comes over them when toning. I have tried it at different strengths, but they all seem the same. Would anyone explain?—PRINT SPOILER.

3690. **Gold Solution.**—How much water is mixed with each grain of gold chloride to make a solution?—SOLUTION.

3691. **Cloud Negatives.**—Can someone please tell me particulars for getting good cloud negatives, and the best plates to use for the purpose?—CLOUD NEGS.

3692. **Want of Density in Negatives.**—Will any one kindly tell me how to remedy this, as I can very seldom get a negative dense enough, especially in the sky? I have tried various makes of plates, and generally the Ilford developer, but have tried Beach's and hydroquinone. Until lately I was never troubled with this, so do not think it is owing to wrong manipulation.—AN OLD READER IN TROUBLE.

3693. **Blue-Black Tones.**—Will someone kindly tell me with what plates and developer I can obtain cold black or blue-black lantern slides? I have tried the Ilford Alpha lantern plates with hydroquinone, and can only obtain brown and reddish results.—SINDEN.

3694. **Aristotype.**—With me Aristotype paper usually gets a pinkish bloom over it after toning, fixing, etc. Could someone kindly say how to prevent this? I use Ilford or mauve tint paper and Liesegang's bath, and some of the prints remain white or nearly so. Is this paper (a collodion-chloride or a gelatin-chloride; if the latter, why is

it often called the former; is there any collodion in it?—B. T. F.

3695. **Plates.**—Could someone kindly tell me of a good thickly-coated landscape plate of about the same speed as an Ilford ordinary? I use Thomas' landscape plates, but they are too slow; I consider them to take two or three times the exposure of Ilford. I would also like to know of a good quick plate, that gives no trouble in developing, about one-half quicker than Ilford, say 45 or 50 times.—B. T. F.

QUERIES UNANSWERED.

Feb. 21st.—Nos. 3471, 3476, 3478, 4391, 3493, 3404.
28th.—No. 3517.

Mar. 7th.—Nos. 3528, 3530, 3531, 3542, 3551, 3554, 3556.

14th.—Nos. 3561, 3566.

21st.—Nos. 3585, 3587, 3593, 3595, 3596, 3601, 3610, 3612, 3613, 3614.

28th.—Nos. 3620, 3628, 3629, 3630, 3637, 3634, 3636, 3637, 3638, 3640, 3641, 3643, 3650, 3652, 3653.

April 4th.—Nos. 3661, 3662, 3664, 3665, 3666, 3671, 3672, 3673, 3674, 3676, 3677.

ANSWERS.

3683. **Swinden and Earp's Camera.**—I have used one of these cameras for several months, and although I have exposed more than 200 plates, have never had a single one discharged film side up. Hold the base of the camera in a horizontal position, or preferably inclined down at front end, to extent of, say, 5 degs. to 15 degs. If held at 50 to 75 degs., it is likely film side will come uppermost. The lens is a good one.—J. W. B.

3687. **Hydroquinone.**—If "Naukt-Poo" will employ fresh sodium sulphite, which should have a sulphurous, and not merely saline, smell and taste, and cork up the bottle in which the solution is made tightly before shaking, he will probably find it a remedy.—R. W. B.

3688. **Perspective.**—Expose more, use less pyrex (if you are employing it), and in any case more restrainer. But distant hills are always difficult to obtain, and, indeed, impossible without a very clear atmosphere.—R. W. B.

3670. **Finder.**—For a detective camera a box finder is most satisfactory. To make a convenient one for the lens and plate mentioned, obtain a lens about $\frac{1}{2}$ in. diameter, plano (or double) convex. If any difficulty is found in obtaining this, it could probably be got for 1s. 6d. to 2s. 6d. from Mr. W. Harding, 52, Gladstone Road, Boscombe, Bournemouth, to order. It should be 2 in. focus. Then make a tin or wood box $1\frac{1}{2}$ in. cube, with two adjacent sides open, and attach a truncated pyramid of the same material $\frac{3}{4}$ in. long and $1\frac{1}{2}$ in. in the base to one open side. The other end of this pyramid carries the lens in a bit of tube. A square of silvered glass placed diagonally in the box, and a piece of ground-glass

with a mask 1 in. by $\frac{3}{4}$ in. closing the remaining open side, complete the finder, which will embrace approximately the identical view. If a finder after the Aptus style be preferred, a watch-glass silvered inside and out square, placed diagonally, will be better than a concave lens, as it can be looked down on from above.—R. W. B.

3675. **Plate-Washer.**—I should say half an hour's washing in such a washer will be quite sufficient.—T. D.

3678. **Hockin's Lens.**—I have had the use of one of Hockin's quarter-plate R.R., and I may say I was very well pleased with it. Judging from the results, I believe I am justified in saying that you will not get a better lens for the very moderate amount which it costs. Six stops are supplied with this lens, the largest of which equals $f/6$.—T. D.

EDITORIAL.

NOTE.—Anyone requiring an opinion upon photographic apparatus, plates, etc., must give a number or initial for identification, as in no case will makers' names be inserted in this column.

SPECIAL NOTICE.—We are very pleased to find that replies in this column are so much appreciated, but we should be very grateful if those requiring advice would send their letters to us BEFORE TUESDAY MORNING'S post if possible. The time occupied in replying in this column is very considerable, and owing to the often late receipt of letters, many matters have to be left over each week. This we much regret.—ED. AM. PHOT.

MISS PHILIPSON.—Animals are not included in the "Ladies' Competition," except so far as they are accessories to the picture.

R. W. BUTTEMER.—We have taken steps which we hope will prevent a repetition.

G. CUTMORE.—Your opinion is a correct one, and we shall take care not to permit the advertisement in any subsequent issue.

HARRY HOLZ.—The art critic of the *Manchester Guardian* and the gentlemen who awarded the AMATEUR PHOTOGRAPHER medals are not in accord. At present we fear there is but little chance of our publishing your MS.

MISS M. A. HENDERSON.—The entry forms have been sent to you.

J. MILLER.—Very kind of you to send cutting. Should be very pleased if you would call; "at home" Mondays 2 to 5 p.m., Thursdays 11 a.m. to 5 p.m.

ALF. WATKINS.—The paper will appear in the PHOTOGRAPHIC SOCIETIES' REPORTER in full. We are writing you.

THOMAS AND CO.—We have sent you a copy of the letter we have addressed to the firm; we are afraid they are not prompt in business. If they do not now execute your order, send us a letter stating the facts, and we will publish it in next week's paper.

J. M. BUTLER.—Thank you very much; we shall keep your suggestion before us.

A. D. GUTHRIE.—Your kind letter with suggestions will receive our attention.

W. H. ARMITAGE.—For landscape or architecture use the former; when doing so you will require a long-focus camera. The portrait is sharp, the subject not carefully posed, the hands being out of plane. Your attempts at "tinting" are a failure.

T. C. HOSKING.—Our publishers have returned one of your advertisements, it being quite out of place in our Sale and Exchange column.

E. F. B.—(1) You will be quite safe in buying a lantern from either firm; perhaps preference may be given to B. (2) The second firm you name make a very good camera. We do not know how they compare in price.

J. ROSENTHAL.—"Eikonogen" will no doubt be cropping up in our "Letters to Editor" column before long. You cannot do better than buy No. 1.

W. H. B.—If you want a cheap lens, have No. 3. You cannot, of course, expect all the qualities of a first-class lens, but you will, we think, be certain of good definition. Buy the lens on the understanding that you try it.

G. H. MANT.—No. 1 is the most compact, cheapest, and reliable of those named. No. 4 has many good points, and in a week or so we hope to be able to speak definitely as to its working powers. No. 3 we have not seen. No. 5 we cannot recommend, and No. 2 we should prefer also to reserve our judgment on until the makers have given us an opportunity of inspecting their "latest improvements." Certainly use the lens you name, it is very specially fitted for hand-camera work.

T. W. WRAY.—We should place them 2, 1, 5. Nos. 2 and 5 can both be used on a tripod. With Nos. 2 and 1 very good lenses are sent out, to No. 5 any lens can be fitted. So, in fact, they can to either of the other cameras. Both are of excellent make; we rather incline to A.

M. H. N.—As far as we at present know we should certainly say No. 2. Why not try the plates? It will depend in a great measure how they have been packed, and where kept. The make of plates are unsurpassed; you should develop with the maker's formula. (5) If you purchase the camera we have advised, you will, of course, use glass. A hand-camera is one which is used, preferably, by holding in hands; a detective camera is one which is

sought to hide from observation, or to disguise, so as not to be recognisable as a photographing machine. The title is a misnomer, and the user of a disguised camera has but little sympathy or support from us.

INQUIRER.—We do not, of course, endorse the opinions expressed by advertisers, and so far as the special apparatus named, we cannot recommend it; at least, not to those who intend to take up photography with a view to picture-making.

ART STUDENT.—The letter has been sent on, and we have no doubt you will hear from our subscriber in due course. Your remarks upon the last "Home Portraiture" number are very encouraging. The address you want is Mr. A. R. Dresser, Springfield, Bexley Heath. We should advise you to buy a cheap quarter-plate set with K.R. lens as a start, and next season, or later in this, buy hand-camera No. 3. The lens you have with quarter-plate kit would answer for it. You could with this size make lantern slides by contact, and then project on the screen. If we can help you any more, write again. Buy "Experimental Photography" (Leaper) of our publishers. You won't want any lessons if you can get a friend to put you through your first few "attempts," and carefully study the book we recommend.

BOIS DE CHENE.—Sorry we cannot spare time to break our rule and write you. If you want the negatives for lantern work, and require a light and unobtrusive camera, we should advise No. 1. A more bulky but exceedingly efficient instrument is No. 5. About No. 3, we do not like to commit ourselves, as the makers have never sent us one for inspection since it has been on the market. We could not advise you to go in for it from what we saw of it in its unfinished state. We hoped you may remain a subscriber for another four years and many more. Write us again if we can help you.

C. EMANUEL.—(1) We have sent to the makers and asked them to send on the camera, if possible with a "time shutter." We think you would find it difficult to adapt a "time shutter," but will report later on. Very pleased to note your name in the list of prize-winners in our "Prize Tour Competition."

W.—Certainly not worth buying.

ANATEUR.—Both books can be bought of our publishers. A marked list sent you by post.

X. Y. Z.—We advise in the following order: *f, e, c, d, g, h*. The cameras *a* and *b* we at present know nothing of.

J. R. BELL.—Extreme pressure and the holidays have prevented our giving the matter our attention. We will now do so, and advise you of the result.

TRY AGAIN.—The best advice we can give you is embraced by your *nom de plume*. You ought to have had no difficulty with the lens and plates you name. Certainly do not start with another lens, but persevere, and, above all things, see that shutter is in order, and that you don't start exposure without pulling the shutter of dark-slide, or drop the shutter with the cap on. You must have made some such blunder. There really is no reason why there should be "simply chaos." The lenses are both good ones; the second you name is first-class, and the plates are excellent. Let us hear again from you.

UMBRIA.—No. 1 lens is far away the best, and worth every penny asked for it. You might, perhaps, pick up a second-hand one of that make by advertising in Sale and Exchange column.

H. JONES.—Nos. 1 and 2 are both most excellent, if you require a cheaper lens we should recommend No. 4. The best cheap plate in the market is No. 1, the others we place in the following order, 5, 4, 3, 6, 2.

C. STEWART.—Send us a line and say to what price you will go, and we will try and help you out of the difficulty.

MELLING.—No. 2 and 3 are not reliable. No. 1: We would rather let you know a little later on; some excellent work is done with it. No. 4 is a well tried and reliable instrument. No. 5 is not equal to 6, but a really very fine lens. 7: We will certainly let you know.

FLANGE.—The QUARTERLY contains articles only written by the very best authorities upon photography, and matters relating to art and science. The REPORTER reports the proceedings at Societies' meetings, and contains much very useful matter. We are always pleased to hear of converts to stereoscopic work, and shall not rest satisfied until we have brought that very beautiful branch of photography to the front again. Mr. Valentine Blanchard will commence a series of articles upon "Stereoscopic Photography" in the first issue in May. A: We would rather not express an opinion upon this camera this week, but will refer to it, we hope, next week. B is a very handy and useful little camera, especially in obtaining negatives for lantern slides. C we have no knowledge of. D: We are waiting to see the "latest improvements," and, unless very marked, do not recommend it. E: A most useful and reliable instrument.

IVANHOE.—No. 1: A very fair photograph, definition good, view well placed on plate, quite free from any faults in technique. No. 2: A really charming picture, foliage well rendered, slight halation around the upper branches of the trees, perfect in technique and well composed, print a very excellent colour. No. 3: Foreground too heavy,

figures in mid distance out of place, the Glen would have been better for more sky and less foreground; lens has not covered plate in right-hand top corner, colour rather too deep. No. 4: A poorly composed picture, branches of trees, right and left, very glaring faults, no artistic value in the picture, the printing fairly good. As a whole the pictures are of fair average. You must need to study composition, your technical work is, generally speaking, good. Nature is not improved, as a rule, by the introduction of nineteenth century men and women, and few amateurs are able to introduce them without spoiling the beauties of nature. Eschew figures. Keep your foreground more limited, and remember that the sky always improves a picture, especially if the scene is thickly wooded. Finally, study "Picture Making by Photography" (Robinson), and don't be too ambitious. Take nature as you find her, and don't try and improve upon her.

NEIGE.—"The AMATEUR PHOTOGRAPHER Annual" will, you may depend upon it, be turned out in first-class style, and will, we trust, have the matter arranged upon some recognised system, adapting itself to the various stages of photographic manipulation. About the subject for the frontispiece it is a serious matter. One of the most prominent of the few virtues we possess is modesty, and we are afraid some might think, if we carried out your suggestion, that we had no further claim to even that virtue. Still, your kind words are much appreciated, and the suggestion shall have our best attention. We are afraid the perforating of sensitised paper would be attended with some difficulty, unless it were carried out prior to being sensitised.

TWIN.—Your photographs are many of them good. In No. 1 you have much too much foreground. No. 2: This interior is poor; the lighting is unequal. No. 3: Here again you have too much foreground, and you have not taken sufficient care in placing your view on the plate; note the left-hand corner. No. 4: A most excellent group, admirably arranged, and marvellously well lighted. No. 5: Same fault as Nos. 1 and 3, and every figure staring at the camera. No. 6: Very pretty grouping. The figures almost too large, but faultless as to composition and definition. No. 7: Not a good composition; your central subject is too much in the mid-distance, and the fault of extreme foreground is very apparent. No. 8: Well taken, and figures posed with some judgment. You would do well to take up genre and figure studies.

C. COUET COLE.—We are pleased to receive your kind letter acknowledging receipt of medal. We are happy in believing that the opinion you have formed of the AMATEUR PHOTOGRAPHER is held by many thousands of other photographers throughout the world. Are you going in for "Travelling Studentship"?

Sale and Exchange.

RULES.—Fourpence for twelve words or less, and a penny for every additional three words, must be enclosed with each advertisement, together with the name and address of the sender, which must be paid for, and sent to Hazell, Watson, and Viney, Ltd., 1, Creed Lane, Ludgate Hill. Halfpenny Stamps preferred. A single figure, or group of figures undivided by letter, space, stop, or *we*, *do*, counts as one word; compound words count as two words.

REPORTING UPON APPARATUS.—The Editor of the AMATEUR PHOTOGRAPHER will be pleased to report, to any intending purchaser, upon apparatus etc., offered for sale in the "Sale and Exchange" column, provided such apparatus, etc., is forwarded by the seller to him to the offices of the AMATEUR PHOTOGRAPHER, 1, CREED LANE, LUDGATE HILL, LONDON, E.C., free of charge. The intending BUYER to pay a fee equivalent to a commission of 2½ per cent. upon the sale price of the apparatus, etc. The publishers will undertake the packing and sending of all goods at the cost of the SELLER. As far as possible, the Editor will undertake to send a report within TWO DAYS of receipt of goods.

DEPOSITS.

Deposits for goods to be forwarded on approval may be made with our Publishers, who will hold the amounts deposited until they are satisfied that the transaction has been executed to the satisfaction of both parties. Cheques and Post Office Orders should be made payable to Hazell, Watson, and Viney, Ltd. A nominal charge of 1s. is made whether a sale is effected or not.

N.B.—Trade Advertisements cannot, under any circumstances, be inserted in this column. Such advertisements can be inserted elsewhere at the Trade Scale, which may be obtained on application to Parry and Crawford, 1, Creed Lane, Ludgate Hill, London, E.C.

"Amateur Photographer," etc.—AMATEUR PHOTOGRAPHER, Jan. 4th, 1889, to April 4th, 1890, complete, 5s.; "Sun Artists," parts 1 and 2, 5s.; "The Camera," complete set, 3 volumes bound, remainder unbound, 12s. 6d.; PHOTOGRAPHIC SOCIETIES' REPORTER, complete set, 7s. 6d.; "Photographic Art

Journal," complete set, 1 volume bound, remainder unbound, 8s. 6d.; "American Annual of Photography," 1887 to 1890, 6s.; "Photographic Quarterly," parts 1 and 2, 1s. 9d.; all are clean and perfect.—Irwin, 66, Serpentine Avenue, Sandymount, Dublin.

Vols. viii., ix., and x. **AMATEUR PHOTOGRAPHER**, 8s. 6d. per vol.; twenty 6d. parts "Camera" magazine, 5s.; first sixteen 7d. parts Cassell's "Cathedrals, Abbeys, and Churches" (present edition), 6s. 6d.—T. O. Hosking, 35, Paulet Road, Camberwell.

Apparatus.—Lancaster's half Meritote, new condition, new mahogany stand, one wood, two Tylar's slides, adapter, 4s.; large changing bag, 7s.—Battell, 14, Queen's Road, Walthamstow.

Bicycle.—Safety, tangent wheels, and all 1890 improvements, cost £20, good as new; or exchange for first-class binocular microscope, or sale; carriage paid.—C., Ashfield House, Malta.

Burnisher.—Burnisher, half-plate (Rock, Sheffield), warranted; cost 30s.; take 8s.; giving up silver printing.—Crump, Common, Sutton, Surrey.

Burnisher and Lamp.—Tylar's half-plate burnisher, with lamp, good as new; 8s.—Walsh, 179, Walter Street, Blackburn.

Cameras, etc.—Half-plate mahogany camera, four dark-slides, home-made; exchange quarter Instantograph, with three slides; no approval.—Graham, New Lanark.

Half-plate box camera, two dark-slides, combination portrait lens, complete, perfect condition; 25s.—A. Lawton, Bank Top, Morley, near Leeds.

Instantograph camera, half-plate, this year's condition as new, latest pattern, with slide, quarter carrier, and mahogany folding tripod, is fitted with very fine rapid rectilinear lens, suitable for either views or portraits, Waterhouse stops; lot, complete, 75s.; approval.—Cooper, 9, Sussex Terrace, Markfield Road, Page Green.

Superior long-extension 5 by 4 camera, three slides, and case; a bargain, 52s. 6d.—Bell, 4, Milton Terrace, Belfast.

Quarter-plate Instantograph 1886, two double backs, all complete in canvas case, with stand; 30s.; or what offers?—G. W. Harrison, Rosendale Lodge, Streatham Hill.

Half-plate camera, three double slides, all best make (by Wood, London), four-fold stand, Optimus rectilinear lens, all new last month; cost £10; bargain, 28s.—61, Gayhurst Road, Hackney.

12 by 6 camera, best make, three double backs, all modern improvements, nearly new, very cheap.—Box 270, Post Office, Bradford.

Camera Case.—Camera case, Lancaster's waterproof, stiff leather bound, new, 11 by 6 by 11; 8s. 6d.; approval 6 stamps.—6, Albion Cottages, Avenue Road, Stamford Hill, N.

Changing Box.—Changing box, Shew's portable folding, whole-plate; 8s.—Miss Cox, 4, Strathearn Place, Edinburgh.

Dark Tent.—Portable dark-tent, pine, dovetailed, with legs, ruby lamp, etc., closes as a box, 30½ by 18

by 7½, in perfect order; 20s.—Irwin, 66, Serpentine Avenue, Sandymount, Dublin.

Detective Camera.—Beck's detective camera for sale, Newman's shutter, iris diaphragm, six double dark-slides, used four times only; cost over £11.—Cash offers to Constantine, Handsworth Wood, Birmingham.

Lantern, etc.—A binial limelight lantern, fitted with dissolving tap, safety blow-through jets, in perfect condition, only been used a dozen times, also oxygen gas cylinder, fitted with tap, etc.; the whole for £13; cost £18.—Address, Hal Keene, 494, Brixton Road, London.

Lenses.—Half-plate rapid rectilinear lens; 30s.; good bargain.—T. Taylor, Tannery, Marple.

Optimus rapid rectilinear 12 by 10 lens, cost £7, nearly new; will take 50s.—Address, Piggins, 95, Old Kent Road.

Dallmeyer's whole-plate R.R., £5, formerly property of most distinguished amateur; or exchange Optimus R. Euryscope, 9 by 7, and 10s.—W., Studio, Boston Road, Hanwell, W.

Half-plate rapid rectilinear, 9 in. focus, and instantaneous shutter; £2 2s. lowest.—Thompson, Brooklands, near Manchester.

Dallmeyer's whole-plate rectilinear landscape lens, fitted with Thornton-Pickard time shutter, both new; price £5 17s.—Graham, Chemist, Stockton-on-Tees.

Lens and Shutter.—Taylor's 10 by 8 single lens, iris, cost 73s., cash 52s., new; quarter-plate Phantom shutter, pneumatic, 7s. 6d.—Jenkins, Fern Bank, Gloucester.

Sets.—Lancaster's 1883 Instantograph, half-plate, landscape lens, iris diaphragm, shutter, two double and one single back and tripod, in good order; price 45s.—23, York Place, Leeds, Yorks.

1889 half-plate Instantograph, fitted, Wray's R.R. lense, pneumatic shutter, four double backs, good tripod, waterproof bag; cost 210s., best condition, offers.—R. Fortune, Harrogate.

Half-plate Optimus, square bellows, long-focus camera, and three slides, fitted in leather case, Ashford's tripod, all perfectly new, in perfect condition; offers wanted.—G., 18, Sandringham Road, Dalston.

Camera, 7½ by 5 (by G. Hare), with four double backs, Ross' whole-plate rapid symmetrical lens, Phantom shutter, and strong ash stand, the whole in splendid condition and latest improvements, price £10; also whole-plate burnisher, silver steel, 10s. 6d.—K., Thorndale, Werpole Road, Wimbledon.

Shutter.—Phantom shutter, with pneumatic release, fit any hood up to 2½ ins.; cost 27s., take 14s. 6d., approval.—F. Sharpe, Oakham.

Slides.—Six Tylar's half-plate slides and screen, four never used; 15s.—Spence, Winterfield, Higher Broughton.

Sundries.—Camunilux, combines half-plate camera, extending bellows, two double slides, magic lantern, and enlarging apparatus, lens, and stand;

exchange whole-plate lens, or offers.—Easterby, 10, Hope Street, West Hartlepool.

WANTED.

Cameras, etc.—Lancaster's quarter Instantograph camera, three double slides; also four-fold cyclist tripod, no lens.—Western, Ravensbourne, Shortlands.

A good 5 by 4 long-focus camera, with reversible frame and three double backs; also quarter ditto, and three double backs; cheap, for cash, no cards.—T. son, 12, Halcyon Road, Birkenhead.

Whole-plate camera, slides, tripod, burnisher, good maker; in exchange for whole-plate Dallmeyer R.R., cost £3.—Palmer, Solicitor, West Hartlepool.

Foraminifera.—Works on above subject by Carpenter, D'Orbigny, Parker, and others.—O., Ashfield House, Malta.

Hand-Cameras.—Facile, fitted rectilinear lens; accept same and £5 for high-class half-plate set, new.—Tucker, Herrick Road, Loughborough.

Loan, for three or four weeks, good quarter hand-camera, complete, with R.R. lens and latest improvements for plate changing and carrying, Artist or Facile preferred; every care will be taken. State full particulars.—Anglais, Mouleau, Archon, France.

Lantern.—Lantern, complete, and good half-plate lens. Will give Hillman's tricycle, worth £3.—Kennett, Sandgate, Kent.

Lenses.—Ross' rapid symmetrical lens, half-plate or larger, in good condition, cheap.—Address, Glazebrook, Melling, near Liverpool.

Half-plate rapid rectilinear lens, by good maker; approval.—Festus, Pounder, Enniscorthy, Ireland.

A good 8 by 5 rapid rectilinear lens.—Metcalfe, Rodly, near Leeds.

A good 8 by 5 R.R. lens.—J. Pearce, Ore, Hastings.

5 by 4 rapid rectilinear lens, Wray's much preferred, with or without shutter.—J. E. Graves, 11, Lansdowne Place, Blackheath.

18 by 18 rapid symmetrical lens, by Ross, Dallmeyer, or other good maker, must be in perfect condition; state all particulars and lowest cash price.—C., Hornby Villa, Hoylake, Birkenhead.

Microscope.—Good binocular, first-class maker.—State all particulars to O., Ashfield House, Malta.

Roll-Holder.—Morgan and Kidd's roll-holder, perfect condition.—Hawksley, 76, Roe Lane, Southport.

Sets.—Cheap quarter-plate camera, with slide, lens, and tripod.—Bertie Turner, Braintree.

Half-plate camera, slides, tripod, by first-class maker.—Jones, Old Vicarage, Chirk, Ruabon.

Slides.—Double dark slides for Lancaster's Instantograph half-plate.—J. Carr, 21, Market Place, Wakefield.

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POSTAL UNION	6s. 6d.	12s. 0d.
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NOTICES AS TO ADDRESS.

PUBLISHING DEPARTMENT.—All letters containing Subscriptions, Orders, Remittances, SALE AND EXCHANGE Advertisements, or other business matters for the *Amateur Photographer* are to be addressed to the Publishers, HAZELL, WATSON, AND VINEY, LD., 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

NOTE.—SALE AND EXCHANGE Advertisements, at the charge of Three Words for One Penny, can be received as late as WEDNESDAY MORNING.

ADVERTISEMENT DEPARTMENT.—All communications respecting TRADE Advertisements in the *Amateur Photographer* are to be addressed to FARRY AND CRAWFORD, 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

NOTE.—Trade Advertisements are received up to Tuesday morning.

EDITORIAL DEPARTMENT.—All Literary Contributions, Queries and Answers, Photographs for Competition or Criticism, Books or Apparatus for Notice or Review are to be addressed to the Editor, *Amateur Photographer*, 1, Creed Lane, Ludgate Hill, London, E.C.

NOTE.—To ensure insertion all Communications should reach the Editor on Tuesday.

CORRESPONDENCE SECTION.—Anyone wishing to communicate with Contributors can do so by forwarding such Communication in stamped envelope under cover to the Editor, *Amateur Photographer*, 1, Creed Lane, Ludgate Hill, London, E.C.

THE "AMATEUR PHOTOGRAPHER" 1890 TRAVELLING STUDENTSHIPS.

PRIZES.

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Fourth "	Gold Medal.
Fifth "	Silver Medal.
Sixth "	Bronze Medal.

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Rules, entry forms, and forms for declaration on application to the Editor, "AMATEUR PHOTOGRAPHER," 1, Creed Lane, Ludgate Hill, London, E.C.

THE "AMATEUR PHOTOGRAPHER" FIRST LADIES' PHOTOGRAPHIC COMPETITION.

PRIZES.

First Prize	Gold Medal.
Second "	Silver Medal.
Third "	Bronze Medal.

(These Medals, of the smaller series, will be appropriately mounted as Brooches).

SUBJECTS.

Landscape or Seascape.—Landscape with Figure.—Genre or Figure Study.

NOTE.—The adjudication will be made by lady artists and lady photographers. It is hoped that it will be possible to make arrangements to exhibit the photographs at a Conversazione to be held in the offices, 1, Creed Lane, E.C., during the month of June.

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VOL. XI. No. 289.]

FRIDAY, APRIL 18, 1890.

[PRICE TWOPENCE.]

✻ OUR VIEWS. ✻

To hold as 'twere the mirror up to nature."—*Shakespeare.*

WE have now the pleasure to state that the prints sent in to the last two Monthly Competitions have been judged, with the following result :

In Monthly Competition No. 10, "Landscape with Figure" :—

First Prize.—CECIL V. SHADBOLT, "At Carthagen, Spain."

Second Prize.—Lt.-Col. H. H. SEALY, "In the Silchester Woods."

Honourable Mention.—Alfred Stieglitz (Berlin), "Snowscape;" David R. Clark, "By the Esk River;" James Drew, "Gloucestershire Harvest Field."

Monthly Competition No. 11, "Genre or Figure Study" :—

First Prize.—G. F. ZIMMER, "Forty Winks."

Second Prize.—Mrs. MOUNSEY, "A Professor."

Honourable Mention.—J. O. Bury, "A Regimental Favourite;" J. J. Thornton, "Old Peggy;" C. C. Mackley (Germany), "The Amateur Photographer;" F. G. Smart, "Making a Net;" Miss Alice Henderson (Nice), "She Begs for Time to Reflect;" H. G. Brierley, "Getting to the Bottom of it."

We are pleased to see a decided improvement in the standard of work sent to the No. 11 Competition, and suppose that we have to thank the improved and more settled state of the weather. The bulk of the work contributed to No. 10 Competition is decidedly poor. Mr. Shadbolt's picture is a pleasing composition, and is exceedingly carefully arranged, and the technical work in every sense perfect. Lt.-Col. Sealy shows a boy with donkey and cart drawn up in the woods. Definition is sharp and bright. Mr. Stieglitz gives us a snow scene with group of villagers in friendly counsel. The print is on Obernetter paper, and is particularly soft in tone. Mr. David R. Clark sends a fine view on the river Esk, which is not, however, improved by the introduction of a figure.

Mr. James Drew, in his "Gloucestershire Harvest Field," gives us a pastoral which is rather formal, and in which one figure is slightly out of focus. We cannot compliment this competitor upon the colour he has secured.

As we have said, the work sent to the No. 11 Competition is of much better quality. Mr. Zimmer has contributed more than once to our competitions, and we most heartily congratulate him on having secured the First Prize in the "Genre or Figure Study" competition. His study "Forty Winks," is an admirable piece of lighting and composition. An old gentleman has fallen asleep over his book, and the light streams in from the window, falling softly upon his hands and face. Detail in the shadows is well rendered. In the print the blacks are very soft and velvety, and also show us what admirable half-tones may be secured by the platinotype process. Mrs. Mounsey sends us a magnificent study, "A Professor," taken with a Ross R.R. lens on an Ilford plate, developed with pyro and ammonia; the print is on Obernetter paper. It is hardly necessary to state that every detail is brought out; even in the deep shadows there is extreme brightness. The next in order is the contribution of Mr. J. O. Bury. The picture shows us a wee child riding pick-a-back on a soldier; the focussing of the child is rather faulty, and the printing is a little too deep. We are much pleased with the matt surface, which is produced by squeegeeing Aristotype paper on ground-glass. We notice Mr. Bury toned this print with chloro-platinite of potassium, and has secured a charming colour. Mr. J. J. Thornton's "Old Peggy" is a good study, but rather artificial in the posing. He uses a Rapid Symmetrical, Britannia plates, develops with hydroquinone, and prints on Aristotype paper, squeegeeing and drying the print on ground-glass, giving the effect of an ordinary silver print, but with considerably more detail. Mr. F. G. Smart sends us a photograph, "Making a Net," which has nothing much to commend it; the figure is stiff, and the background most uninteresting. The technical work is very careful; the photograph was taken on a Mawson plate with a Ross 10 by 8 lens. Miss Henderson's picture is fairly com-

posed, and tells the story of the title; the figures are rather stiff, and the third figure in the picture is amused with the performances of the operator. The picture was taken with a Voightlander's lens on a Marion's plate. Mr. Brierley's "Getting to the Bottom of It," shows a little girl drinking from a cup, with her dolly in attendance—a pretty little composition.

Mr. Charles L. Mackley's "The Amateur Photographer," is an amusing composition. The enthusiast has prevailed upon a long-suffering friend to sit "to be took." He has requisitioned the hall chair, a screen, old packing case, and hearth-rug, to form a studio; on the ground a table-cloth is spread to assist the lighting; on one side a child stands on a chair with an umbrella or an overhead light screen, and on the other side another child holds a white cloth to induce a side light. The operator is in the characteristic attitude of a working photographer; the whole is particularly droll. Apart from the merit of the composition, it is a very fairly executed photograph.

We shall hope, now that the outdoor season has commenced, that a very much larger number of photographs will be contributed. The next competition is for "Instantaneous Photographs, Animals, etc." All pictures for this competition must be received on or before the 14th of May. We are anxious to collect together as many pictures as possible for loaning during next winter season, and shall be quite prepared to increase our prize list if the photographs merit additional awards.

* * * *

On the occasion of the visit, on Saturday last, of representatives from the firm of Messrs. Hazell, Watson, and Viney, Ltd., to Aston Clinton, the seat of Cyril Flower, Esq., M.P., copies of the PHOTOGRAPHIC QUARTERLY and the AMATEUR PHOTOGRAPHER Prize Pictures were presented to the Right Hon. W. E. Gladstone, M.P. The right hon. gentleman, who received the party in the magnificent drawing-room, expressed himself as extremely delighted with the photographic results attained in these publications, and informed the company that they would form a part of his library at Hawarden. It is interesting, also, to record that the genial host on this occasion is an ardent amateur photographer. Mr. Cyril Flower kindly took no less than six photographs of the group of visitors, and, in the course of conversation, said that he considered the plates in the QUARTERLY were "simply exquisite."

* * * *

In reviewing the recently issued "Home Portraiture" number, the *Bookseller* says, "This work should be in the hands of every photographer, whether professional or amateur, as its examples will tend to impress upon them the paramount importance of careful grouping so that the general effect shall be lifelike, while all that is stiff and inanimate is avoided, a result too often wanting in photographs."

* * * *

WE are pleased to notice that a society has been started for the Staffordshire Potteries, with head-quarters at Burslem. There is every probability of the Society securing a considerable number of members.

* * * *

In another column will be found a letter suggesting the

formation of an Amateur Photographic Society at Cambridge. This will not in any way clash with the already existing Cambridge University Photographic Society, the members of which have done good service in advancing the science and art of photography.

* * * *

THE Croydon Camera Club is pushing ahead. The President, Mr. Maclean, is untiring in his efforts, and we understand that already some fifty members have been enrolled. It is hoped that the number will reach 100 by the commencement of the next winter season.

* * * *

TO-DAY (Friday) the International Photographic Exhibition will be opened at Newcastle-on-Tyne. We understand that the Exhibition is of a very extensive character. The following are amongst the exhibitors:—Messrs. Dudley Arnott, M. Auty, J. E. Austin, W. J. Anckorn, W. J. Bryne, E. Beck, Court Cole, A. R. Dresser, T. H. Faulks, W. Croake, D. Barnett, T. G. Whaite, H. S. Mendelssohn, Green Bros., H. P. Robinson, R. W. Robinson, G. Proud, B. G. Wilkinson, C. S. Roe, F. Howard; Pancoast, Bullock, Redfield, Dumont, U.S.A.; H. Little, Geddes and Sons, A. W. Gottlieb, H. J. Godbold, F. Whaley, W. H. Kitchin, W. W. Winter, J. P. Gibson, Rev. C. Hare, A. Keighley, A. F. Pinheiro, R. Keene, F. M. Sutcliffe, J. E. Goold, W. D. Welford, W. Parry, A. Chancellor, H. W. Reeves, E. Greaves, G. W. Wilson and Co., H. G. Ridgway, G. West and Son, J. Pike, Symonds and Co., Lyd. Sawyer, H. R. Procter, J. Lafayette, etc. The judges are to be Messrs. Paul Lange, William Lang, jun., F.C.S., and J. W. Wade, gentlemen well known and all practical photographers. The Exhibition is to be opened by the Mayor and Sheriffs of Newcastle. The Presidents and Vice-Presidents of the Newcastle-on-Tyne and Northern Counties Photographic Association will be present, and a large number of invited guests. At seven o'clock in the evening Mr. Paul Lange will give his lecture upon "Norway," of which the following is a synopsis:—*Newcastle-on-Tyne*: The Quayside. *Hardanger Fjord*: Bubrae Glacier, Sunday at Odde, Lotofos and Skjeggedal Waterfalls, Eide, Vosvangen, Naerodal, Gudvangen. *Sognefjord*: Essfjord, Balholmen, Suphelle Glacier, Borgund Church. *Nordfjord*: Faleide, Loensvand, Strynsvand, Bergen and Fish Market Scenes, Sunset. To-morrow (Saturday) there will be a vocal and instrumental concert at 3 p.m. and at 7.30 p.m. Monday, the 21st, Mr. W. Lang gives his lecture, "Fifty Years of Photography." On Wednesday, the 23rd, Mr. Welford gives a lantern show. On Friday, the 25th, the prize and other slides are shown. On the 2nd of May, Mr. J. P. Gibson will deliver a lecture, with lantern illustrations, entitled "Northumberland, its Antiquities and River Scenery;" and so on, throughout the time the Exhibition is opened, something will be going on as well as the Exhibition. We have said enough to recommend our readers who are able, to visit the Exhibition, which is certain to be a great success. The Executive have worked most assiduously, and the Hon. Secretaries, Messrs. Lee and Brown, are to be congratulated upon the attention and courtesy which they have shown to all comers. We shall, of course, have more to say about the Exhibition in next week's issue.

* * * *

A PRIZE-WINNER in our recent "Prize Tour Competi-

tion" writes, "I trust that the advancement in my studies for the next three years may be such as to place me, at the end of that time, second to none in the list of competitors, and I shall hope then to be able to carry off the highest honour that can be taken by an amateur, viz., the AMATEUR PHOTOGRAPHER Gold Medal."

* * * *

MR. W. COLLS has kindly sent us a copy of "Breezy Marshlands," with Dr. P. H. Emerson's compliments, which has been admirably photo-etched by him. The picture is extremely uninteresting. The centre of mid-distance is occupied by waggon and horses with attendant waggoner, all in natural proportion, but the boy and the gate at left hand of picture are very much out of proportion; the gate is much higher than it is wide, and the boy, if measured on the same scale as the waggon and horses, would be about 9 feet high. The effect of the distortion or unrealness of the picture is even more noticeable in the large expanse of foreground. We find that, taking the width of waggon to be 5 ft. 6 ins., the road, as portrayed by Dr. Emerson's lens, would not be less than 87 ft. from side to side—surely a most absurd distortion! The lanes in "Breezy Marshlands" are doubtless of an open character, but we cannot accept Dr. Emerson's picture in this case as being true either to nature or art.

* * * *

WE are glad to learn that a special meeting of the Photographic Trade Section of the London Chamber of Commerce was held on Monday last at its offices. Of the generous offer of the Drapers' Company, with regard to the loan of their hall, there was much approval expressed, and it was cordially accepted. It was also mentioned that electric light would be at the disposal of the exhibition for the evening. It was proposed to have 36 screens, which would provide space to the extent of about 3,750 square feet, and tables which would give another 800 square feet for the display of photographic appliances. The exhibition would be open, on presentation of visiting card, from ten to six. Already space to the extent of 2,000 square feet had been requested by intending exhibitors. We notice that the question of permitting amateurs to exhibit was again brought forward, but it was considered that, as the exhibition was to be held under the auspices of the Photographic Trade Section, it would be unwise to allow amateur to compete with professional photographers. The charge, it was thought, for exhibitors should be a *maximum* of 2s. per square foot. Mr. Cockin was proposed as Secretary, to whom communications should be addressed at Botolph House, Eastcheap. Mr. Bird consented to be the Treasurer. The exhibition will commence on May 30th, and close on June 10th.

* * * *

New societies keep cropping up in addition to those noted above. We have advice of one being formed at Bramley, near Leeds. The district comprised is considerable, and we believe largely populated. Particulars of the formation of the Society will be found in another column. Already some thirty members have been enrolled. A photographic society has also been formed in connection with the Mason's College. It is proposed to form a Society at Barrow-in-Furness. Mr. W. Dunlop, of 31, Hartington Street, Barrow, will be pleased to hear from ladies or gentlemen who may be desirous of assisting in the forma-

tion of such a Society. At Faversham, a correspondent, Mr. Charles J. Evers, of Albion House, writes us that there is a little band of workers eager to start a Society, but with some diffidence he says, "The great drawback is we have no teacher or leader here, and are all in rather a benighted condition." Perhaps some of our readers will communicate with Mr. Evers, and endeavour to throw a bright beam of light upon their darkness.

* * * *

WE publish two letters upon the Edinburgh Photographic Society. Mr. John Pirie is quite ready to throw his energies into the formation of a purely amateur photographer's society, whilst Mr. Murray suggests reforms in the management of the parent society. Perhaps the Council of the Society will deign to notice the matter. We are not sufficiently "in the know" to pass an opinion upon the inner working of the Edinburgh Photographic Society, but so far as the work done in public, judging from the published reports, we must admit that for so important a society, and for one having the largest muster-roll of any society in the kingdom, except the Camera Club, the verdict must be "Found wanting." We hope this matter will not be allowed to drop. Edinburgh and the immediate district around it is a perfect paradise for amateur photographers, and is visited by workers from all parts of the world. If a club is started it should be of a very first-class character, and should especially exert itself to help, with information, the hundreds of visiting photographers to the beautiful city of Edinburgh. Surely amongst the thousands of readers of the AMATEUR PHOTOGRAPHER, many of whom live "north of the Border," there can be no difficulty in securing first-class men of position, socially and as amateur photographers, who will lend their names and influence to establish a camera club in Edinburgh.

* * * *

THE ROYAL SOCIETY OF BRITISH ARTISTS.

THE sixty-seventh Exhibition of the Royal Society of British Artists has now, at the beginning of the Gallery season, opened its doors to the public. The members of the Society advance along the traditional lines (which is, indeed, to be expected of a Society which was founded many years ago), and it is only amongst the comparatively new members that there is any attempt at originality—No. 294, for instance.

The collection of close on six hundred pictures now being exhibited is rich chiefly in landscape and seascape, and one is specially struck by the large number of fishing-boat scenes. Mr. Hardy is conspicuous for his sea pieces. No. 84 is a very truthful rendering of a dull day with the rain-laden clouds hanging over the sea. No. 120 is a breezy bit, and the grouping of the vessels is instructive. No. 184 is a charming little sea-shore sketch. Of other seascapes, No. 11 is pretty, the red-tiled cottages breaking the sky line with their irregular outline. Mr. Cobbett's tiny Venetian sketches, Nos. 51, 85, and 114, are worth looking at; and Nora Davison, in No. 105, has succeeded in producing a picture with a peculiar attraction quite its own; there has been no attempt to include too much in the angle of view, no striving after effect, and the painting of the water in the foreground, with the warm colours of the masts and sails of the fishing boat reflected on its rippling

surface, is admirable. Mr. Priestmain's 259 is worth noticing for the cloud effect reflected on the water—it is hardly truthful though very beautiful. Nos. 289 and 501 are, again, good fishing-boat scenes; but coming to Mr. Reid's "When the Boats Come in" (No. 314), and looking at the extraordinary colouring, the photographer can congratulate himself that it is impossible for him so to libel nature. So, too, No. 31—a view of house roofs—is the sort of subject a photographer would only take to test a plate on, and the question arises whether the fact of its being produced by brush and paint is sufficient to admit it into the ranks of productions called "artistic." No. 12 is a pretty little water-colour by Elizabeth Petrie, and the visitor should not fail to see Nos. 43 and 67, both views of Dordrecht, by different artists; all three of these pictures quite attain to one's ideal of composition. Mr. Stannard, in No. 38, "A Note on the Ouse," shows a beautiful melody in soft greens and greys, with, fortunately, none of those disconnected tree branches interpolated to produce a conventional balance, as one so often sees. No. 108, "When Summer Flowers are Flown," is a charming piece of tree painting, delightful autumnal tints with a beautifully painted hazy background. But the palm for landscape must be given to Mr. Rouse, for No. 375, "The Close of Day;" he is evidently a disciple of Leader's, and to say that he has caught some of his master's spirit is to say that his work is successful. Mr. Jay's autumnal woodland scene, No. 395, is good, and Mr. Nelson Dawson's sketches are always worth looking at.

The next class for which this collection is distinguished is that which deals with architectural subjects, and the photographer can gain a good many ideas from one or two of the pictures, as to the artistic treatment of interiors, in the rendering of which the members of the Society are far more successful than when they attempt exteriors. No. 22, "The Interior of St. Bartholomew's, Smithfield," by Mr. Harding Smith, is well treated, and there is a good effect of sun streaming through the windows into the dark recesses of the Norman aisle. It is difficult to believe that No. 79 is by the same artist; it represents a bit of the cloisters of St. Antonio, Padua, but the artist does not seem to have the least realised how to treat a subject which has great possibilities; he has included a much wider angle and a far larger expanse of courtyard than the eye could have possibly taken in at one time, whilst he has most unnecessarily cut off the summit of the spire, which might have helped to balance the composition. There is an apparent distortion about the picture such as would be found in a photograph of such a subject taken either with an unsuitable lens, or unintelligently with a suitable one.

The two best architectural subjects are Nos. 46 and 264, both interiors by Mr. Bayliss, who appears to have a marvellous facility for this sort of work. The latter, though perhaps a trifle confused, is specially attractive; the rendering of the marble pillars is very fine, and the painting of the rose window on the left most effective. If there are pictures from which we can learn much, the treatment of No. 128 convinces the photographer that he has something to teach, at least, some few of the votaries of the brush, for none of us who have the least idea of artistic effect would dream of taking a straight-lined subject like the Temple at Paestum, "end on," with an equal piece of flat ground on each side.

Nos. 107 and 205 are street scenes in Dinan, by Mr. Pitt. There is not much to find fault with the angle at which the subject is represented (as there is in No. 29), or with its arrangement, but the artist has entirely failed to convey even the least suggestion of anything approaching the characteristics of a French street scene, and so deficient are his pictures in this respect that anybody with taste would infinitely prefer to possess one of Canon Mann's beautiful photographic studies of the same town. After looking at these, let the visitor refresh himself with No. 218, "Town and Temple," by Mr. Lauder, with its admirable perspective and characteristically truthful expression of a London street scene.

In portraiture the Society does not shine. Mr. Hallyer is successful in his rendering of heads; he adopts a white background, and his careful and finished painting stands out well from it. Nos. 153, 155, 182, and 248 are all worth looking at. He is at his best in 182, an old fisherman in a red cap. Mr. Hallyer fails when he attempts ambitious pictures: nothing could be more disappointing than No. 429. No. 508 is clever and very natural. No. 333 is a good full-length portrait by Davidson Knowles; the pose is capital. Nos. 335 and 275, both entitled "Reverie," are distressing. Others worth looking at are Nos. 406, 408, and 571.

The figure subjects and dramatic pictures are superior to the portraits, but not up to the landscapes in merit. No. 16 is a really commendable piece of oriental colouring. No. 134, "Rival Games," by Gordon Browne, is first-rate; the expressions on the faces of those interrupted in their game of bowls is admirable—the grouping, too, is excellent.

In No. 294 we come to one of the best, as well as one of the most original pictures in the Exhibition. It is, moreover, by a new comer to the Society, Mr. Brangwyn. The fine grouping of the figures as they stand upon the quay, anxiously watching and discussing, as the good ship tries to make the harbour, through the evidently tempestuous weather, defies criticism, at any rate at the pen of a photographer. Mr. F. Coleman has two figure studies; No. 209, a soldier repairing his armour, is very natural; the man looks his part to perfection. The same cannot be said of No. 225, entitled "An Italian Peasant;" it ought to have been called "Artist's Model Dressed as an Italian Peasant."

The three girls in a boat, No. 391, by C. E. Marshall, are treated in a bold, original manner, and the attitudes are unstudied and graceful. There are two disciples of Alma Tadema. Their pictures are numbered 14, 297, and 504, by H. Jackson, and 359 and 368, by Mr. Lowcock. They both fail entirely to catch their master's spirit; the marble, the Greek drapery, the scattered flowers, and even the distant vista of the blue *Ægean* are all there, but it is "all paint;" there is none of "the soul of painting," and "at the touch of the plagiarist all the poetry has flown." No. 151 reminds one strongly of Mr. Gale's cottage scenes. No. 146 is striking, and No. 371, though in a curious style of painting, contains admirable grouping and a considerable amount of spirit.

What, then, do we learn from this Exhibition, with its many merits and defects? Surely, the truth of this saying of Mr. Ruskin's, that "painting, with all its technicalities, difficulties, and particular ends, is nothing but a noble and expressive language, invaluable as the vehicle of thought, but by itself nothing."

Letters to the Editor.

AMATEUR PHOTOGRAPHIC SOCIETY FOR EDINBURGH.

SIR,—It would be unfortunate if Mr. Pirie found no further support in the expression he has given to the undoubted feeling of disappointment and dissatisfaction with photographic affairs here.

I differ from him as to the necessity for a new Society, but I am entirely in accord with him as to the supineness and want of energy of the present Society and its office-bearers. The interest taken in its monthly meetings is far short of what it should be, its papers are not creditable, its demonstrations and discussions few and of little interest, and its management generally wanting in vigour.

It would do the Society little good to enter into a discussion here of its failings, which are only too evident to any one who attends its meetings, but I venture, as a loyal member of it, to make one or two suggestions for reform. I think only harm will be done by multiplying the photographic societies in Edinburgh. A large Society has necessarily, if well managed, greater possibilities than a small one, if only because of the greater support it can always command. For this reason I would deprecate the formation of any new Society. I have to suggest, however—

(1) That at least three-fourths of the Council of the Society should be amateurs.

(2) That it should have rooms belonging to itself, and occupied solely for its own purposes, open every day.

(3) That it should encourage the formation of sections interested in special kinds of work.

(4) That it should hold an annual exhibition, and arrange for minor ones throughout the year, as well as for excursions to places of interest.

I look to the change in the Executive, and to the acquisition of proper premises (a question it is now considering), as being the first essentials of making the Society as influential as it is now weak. But I am convinced that unless by the formation of its members into sections, and the encouragement of special work, or by some similar plan, it promotes friendly intercourse and mutual helpfulness, the size of the Society will always hinder instead of helping it. Apologising for the length of this letter, I am, etc.,

ALFRED R. MURRAY.

April 9th, 1890.

SIR,—My last communication would appear to have disposed of the gentleman who championed the existing Edinburgh Photographic Society in your columns. Living in this city, I learned the other day that a meeting of the leading members of the society was held to consider the attack which had been made upon them, and I looked for a letter from some of their number in defence of their claim to represent amateur photography in Edinburgh.

It is evident to everyone that they do not represent it, and their silence shows that they themselves are conscious of the fact. As your leaderette a fortnight ago stated, the society, once an active one, is now moribund.

Nothing could have so well illustrated your remarks as the impotence of the members to defend their position. The sooner a society is set agoing which will at least make an endeavour to keep abreast of the advancing cause of photography, the better. I consider that, even on a small scale, it would be advisable to begin at once, and will therefore be glad to hear from anyone who is favourable to my proposal, so that arrangements may be made for making a start, either at once or in autumn. I may say that I have already received valuable promises of support. My address is 6, Marchmont Road, Edinburgh.—Yours, etc.,

JOHN PIRIE.

CHEAP LENSES.

SIR,—In the PHOTOGRAPHIC SOCIETIES' REPORTER of March 31st, 1890, page 94, Mr. F. T. Norris is reported as saying "the Kodak and some other hand-cameras have no more expensive a lens than a single non-achromatic objective, costing, first cost, about 6d. each. Yet the work done by them is capable of very satisfactory enlargement." This must be news to most people, and the question is, if a sixpenny lens will do so much, why pay four or five pounds for one?—Yours truly,

FRED DAVIS.

HAND-CAMERAS AND STEREOSCOPIC WORK.

SIR,—As far as I am aware, no hand-camera fitted with a film holder has yet been placed upon the market adapted for stereoscopic work. A very perfect article for the use of plates has, however, more than once been shown by Mr. A. Stroh, a talented member of the Camera Club. Similarly, proceeding upon independent lines, I had constructed a hand-camera taking twelve $6\frac{1}{2}$ by $4\frac{1}{2}$ in. plates in double backs, fitted with the Wollaston diaphragmatic shutter, a pair of Dallmeyer's patent Stereograph lenses, working at an intensity of $f/4$, and provided with means for using them in their single form, thus giving, roughly, a choice of 5 or 10 in. focal length. This instrument has been productive of what is, I believe, generally admitted to be very excellent hand-camera work (some of which I shall be pleased to show your correspondent "Rb. Rb."), but, like all stereoscopic cameras capable of similar adaptability, it is somewhat bulky and heavy. The latter defect may be remedied by the substitution of films for glass; but the former must, I fear, prove a stumblingblock to the general employment of stereoscopic cameras for hand work. I fear your correspondent will have to commission some good firm to build an instrument to his special order; in this case, if "expense be no object," I can, I think, put him on the right tack.—Yours, etc.,

E. R. SHIPTON.

A NEW TONING BATH.

SIR,—As a constant reader of the AMATEUR PHOTOGRAPHER, and particularly those columns devoted to "Queries" and "Answers" I have often been struck with the number of amateurs wishing to be enlightened as to the best method of obtaining rich purple black tones in silver printing by means of one of the numerous gold toning baths in general use.

After a careful and interesting series of experiments with the above object in view, I have decided on the following formulae as being both simple and thoroughly effective for either matt-surface or albumenised papers:

I.

Bi-carbonate of soda	6 grs.
Gold chloride	1 gr.
Ammonia '888	4 minims.
Water (up to)	8 ozs.

Wash the prints in two changes of water, and then transfer to a dish containing:

II.

Bi-carbonate of soda	1 oz.
Water (tap)	10 ozs.

Toning may be commenced after they have been in the latter solution about three minutes.

Fix in the following for fifteen minutes:

III.

Hypo-sulphite of soda	2 ozs.
Ammonia, '880	2 minims.
Water (up to)	10 ozs.

Again place the prints in bath No. II. without previous washing for about three minutes; then dilute the bath and finish washing with ordinary water.

Trusting that these few remarks may prove of interest, I remain, yours faithfully,

C. J. DAVIES.

MOUNTING PRINTS.

SIR,—There is one method of simplifying the somewhat tedious process of mounting prints, and that is by using the rather ingenious inventions of Messrs. Fell and Co., of Wolverhampton.

I am always on the look out for really useful novelties, and so I was pleased to come across these three helps for mounting prints. No. 1 consists of a very neat brass cylinder, with piston, of small but convenient size, closed at one end with double fine wire gauze. The starch is put in this cylinder, and the piston inserted and forced down; this causes the starch to be pressed out, and having passed through the wire gauze, it is in beautifully smooth condition for mounting prints.

The second item is a little roller, with which the starch is smeared, and this serves capitally for large prints, and its use is more expeditious than an ordinary brush.

The third item is a useful brass roller; this is employed after the prints are placed on the mount. I put a piece of clean stiff paper over them, and roll them down freely. The method is

speedy and clean, and the appearance of the print greatly improved. Some of my friends have thought that such prints had been burnished, as the rolling gives such a nice surface.

I trust that many others may find valuable assistance from these useful and not expensive helps in mounting prints.—I am, Sir, yours faithfully,

C. HETHTON LEWIS.

* * * *

ALPHA PLATES.

SIR,—In common justice to the Britannia Works Company, will you permit me to say that I have used several dozens of their Alpha lantern plates, and did not find a single soiled or defective plate in the lot? But then I carefully unwrap the plates, and ascertain the coated side by touching a corner with a pin or a penknife, taking care never to touch the surface with a finger. I never used such sure plates before, and generally have twelve pictures from a dozen plates.—Yours, etc.,

W. J. CHRISTIE.

* * * *

PHOTOGRAPHIC SOCIETY FOR THE POTTERIES.

SIR,—Will you kindly allow me space to answer Messrs. Powell and Hewitt on the above subject. They seem to think I am opposed to any other society being formed about here, which is not the case, as I should like to see several if there are sufficient amateur photographers to keep them afloat, which I very much doubted when I last wrote. Let me only say I (as Secretary) will do my utmost to help Messrs. Powell and Hewitt should they think fit to ask me.—Yours faithfully,

W. WILBERFORCE BEACH

(Hon. Sec., Newcastle A. P. S.)

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AMATEUR PHOTOGRAPHIC SOCIETY FOR CAMBRIDGE.

SIR,—It is desired by several interested in the art of photography to start an amateurs' society in this town, and if you would kindly give the subject publicity through your columns it would be doing much towards drawing attention to the subject of the numbers in the neighbourhood who are interested in the art.

Those wishing to aid in the formation of the society please to communicate to Mr. F. H. Sanderson as early as possible, so that arrangements may be made in order to start the above proposed society.—Yours, etc.,

W. HARRON.

* * * *

YELLOW V. RED GLASS.

SIR,—Seeing "Experience's" letter in the AMATEUR PHOTOGRAPHER of April 11th, I wish to ask why the canary-coloured glass is not used instead of the red ruby. After using the collodion wet, five-and-thirty years ago, I had to give up, and have now taken to the dry plate a month or two ago, and had many failures from too much light through the ruby, which was not dense enough. Why have calico if the yellow glass will do? Surely glass is better than calico.—Faithfully yours,

CALICO.



"LIPPINCOTT'S" for April contains an interesting story by Christian Reid, "A Cast for Fortune," a continuation of Nathaniel Hawthorne's "Elixir of Life," and other attractive articles, including "On Some Recent Art Progress," "Stanley's Emin Pasha Expedition," and "The Spirituality of Marriage."

THE ANNUAL DINNER of the employés of Messrs. William Watson and Sons, of 313, High Holborn, took place at the Holborn Town Hall on Saturday, April 12th. Mr. T. P. Watson occupied the chair, and Messrs. Worster and Sanders the vice-chairs. After dinner, and the loyal and patriotic toasts had been duly honoured, the Chairman proposed those of the various departments and workshops, which were responded to by the managers. During the evening a capital programme of songs, recitations, etc., betokening the presence of considerable musical and elocutionary ability, was gone through, and at 11 o'clock the whole company, about 120 in number, joined hands and sang "Auld Lang Syne," separating in time to get home before Sunday morning, after having spent a most enjoyable and pleasant evening.

The Complete Photographer ;

OR,

THE MODERN RECREATION OF CONTEMPLATIVE MEN.

BY H. P. ROBINSON.

CHAPTER VIII.

Development.

PUPIL.—I suppose, now we are going to develop, I shall begin to learn some of the secrets of success. Or, possibly, I shall not be deemed worthy of attaining the grand arcanum until I have gone further into the mysteries. Without wanting to seem ungrateful, I hope I may be allowed to say that up to now I have heard nothing new or different to what can be gathered from the shilling hand-books.

PHOTOGRAPHER.—The secret of success in photographic manipulation is that same "gathering." There is no unpublished secret in photography, except the open secret of photogravure. I have heard of an amateur—but I don't know how true it is—giving £100 for a few lessons in this process, but perhaps that sum included the retention of the teacher as a photographic "ghost" to do the work for him; and the other day a mine gave several guineas to a process-monger for a certain so-called secret. Against all experience and probability, it was worth the money to him, but it was not new. It had been published dozens of times. It is proverbially difficult to find the needle in the pottle of hay. It is finding the needle and using it properly that is success. I am showing you the way to find it. I am trying to put you on the clue that threads the maze; you may lose yourself in the by-ways of the photographic labyrinth when I have done with you, if you like. I take the liberty of reiterating that my object is to teach you what to select and avoid, rather than anything new. There is too much of what flattery would call new; so much is this the case, that there is danger of losing the best processes in the obscurity of multitude. Our present subject—development—is as good an illustration as we could have of the difficulty in finding the needle. Suppose you found in the books "A Thousand and One Ways of Cooking Eikonogen," or "Studies in Beach's Developer," or "Variations in Pyro," or "Reminiscences of Oxalate," or "Hints on Hydroquinone;" the magnetic current would probably be lost before it got to the needle, and there would be no success, whatever that word may mean. Success itself is a needle in difficulties; we are always hunting for it and never finding it. Yet onemore illustration of the legend of the Boojum—we vanish when we see it. We have not time to moralise, so let us get back to our work, and see if we can rescue you from this crowd of developers. It has been said that much of the prevailing insanity among photographers may be traced to new developers and their numerous progeny, the modifications, ably assisted by the large family of gay and festive instantaneous shutters that are always ready for any mischief.

PUPIL.—Is this a fairy tale?

PHOTOGRAPHER.—How gentle your hints are! Now, to be serious. You want to know the best developer out of the thousands. It is not easy to reply with precise accuracy. Doctors disagree, and in half-a-dozen articles on the same developer we get six varying opinions. Where there is no fixed data, conclusions must differ. I can therefore only give you what in my experience I find to be the best in average circumstances. The function of a good developer is to bring out the latent image impressed on the plate, so that the light and shade of nature shall be best imitated or interpreted in the finished picture. In doing this, modern

requirements demand that it shall be energetic, so that the shortest exposure may be given; that it shall not fog or stain the film; that it shall not take an unconscionable time to do its work; that it shall allow some latitude in exposure; and that it shall not be decomposed by a reasonable length of keeping.

PUPIL.—Can all these qualities be found in one developer?

PHOTOGRAPHER.—Nearly, and, curiously, this combination of good qualities is to be found in the oldest. I have used pyro and ammonia from the beginning, and although I have tried nearly every new developer that had any claim to common sense in its constitution, I have not found any other to equal it as an all-round developer fitted for the use of the picture maker. Other developers may have their special qualities and uses; some may be a little quicker, others may be—well, I cannot see any other advantages in the rest of them, except you want to produce a particular colour of image, as in lantern slides, which, however, is not our business at present. There will be no objection to your trying some of them after you have perfected yourself in the simple course I am trying to take you through. The developer I use, and never, except experimentally, depart from, is made as follows; I will set it down in the simple old-fashioned manner, and say nothing of the metric system or the intolerable facility of 10 per cent. solutions, or any other of the ingenious suggestions for going a long way round to do a simple thing.

Bottle A.—Pyrogallie acid	..	..	1 oz.
Citric acid	..	..	40 grs.
Water	..	..	7½ ozs.
Bottle B.—Bromide of potassium	..	120 grs.	
Water	..	..	7 ozs.
Ammonia 880	..	..	1 oz.

It would also be as well for use on emergency to have at hand a bottle of solution of bromide of potassium as follows:—

Bottle C.—Bromide of potassium	..	80 grs.
Water	..	8 ozs.

It is sometimes the practice to have the ammonia solution in a separate bottle, but this has little practical advantage to compensate for the additional complication.

I have found that if the pyro part of the developer is made with water that has been boiled and allowed to get cold, it maintains its discoloured condition for a much longer time, and although the solution remains efficient after it becomes brown, it is weaker and imparts a darker stain to the gelatine film than when it is less coloured.

PUPIL.—What effect has boiling on the water?

PHOTOGRAPHER.—Boiling expels the air which is always found in water which has been exposed to the influence of the atmosphere for any length of time. The oxygen dissolved from the air unites with the pyrogallie acid, forming the dark brown discolouration of which I was telling you just now.

For use, these solutions must be diluted, the normal proportion being—

Water	..	..	..	3 ozs.
A	..	..	..	60 minims.
B	..	..	..	60 minims.

But these proportions are subject to much alteration, for one of the merits of this developer is the great possibility of variation to suit different subjects and exposures. It may be taken as a general rule that pyrogallie acid gives intensity, ammonia detail, and that bromide restrains, keeps the shadows free from fog, and gives time for the operator to watch the course of development, but there are qualifications for these statements which I shall point out and show you

practically by and by. For instance, pyrogallie acid will only do its work when excited to do so by an alkali, and the addition of more pyro to the formula I have given would cause little, if any, increase of density, and the addition of ammonia towards the end of development will materially increase density without adding much to detail, although if added in excess it may produce fog; and it is a curious fact, never noticed that I am aware of, that a plain solution of pyrogallie acid used alone is a desensitiser. This use of the word is not strictly correct, because it is too late to say a plate is desensitised after it is exposed, but what I mean is this. Take two plates exposed alike, or, what would be better, divide an exposed plate into two parts; soak one in pyro for ten minutes, and then develop the pair in one dish, and it will be found that the half treated with pyro solution has less detail and appears to have had less exposure than the other. I mention this as it is a practice with some photographers to place their plates first in plain pyro under the mistaken notion that it will be easier to apply the developer when active with the addition of ammonia. I should also mention that the citric acid is used only as a preservative of the pyro, and is neutralised when the ammonia is added.



The Electric Light and Photography.—I.

By T. C. HEPWORTH, F.C.S.

INTRODUCTORY.

It was originally my intention to include a consideration of the important subject which heads this article in my "Winter Work" series. But the matter was crowded out for want of space until the general heading which I had adopted for my series of articles became from lapse of time a misnomer, so that, with our Editor's permission, I have abandoned my old title, and have started afresh with a subject which I cannot but think will be of interest to most amateur photographers. The electric light, after many a vain effort to bring itself into prominence, has at last come within the domain of things practical, and in a short time we may hope to have it laid on to our houses much in the same way that gas has been supplied to us for so many years. It behoves us therefore to direct attention to the coming change, and to point out how far the new lamps when exchanged for old ones will possibly cause modifications and improvements in our daily work. It may also be desirable to indicate by what means and how far it is practicable for an amateur to use the electric light independently of any supply from outside his own premises. A brief review of what has been done in the past to gradually bring the electric light to its present perfection will be necessary as a prelude to my remarks.

The first experimental production of the electric light was due to Mr., afterwards Sir Humphrey, Davy, at the beginning of this century. At that time only a simple form of electric battery, founded on Volta's pile, was known, but sufficient interest was taken in the mysterious kind of power which it exhibited to induce "a few zealous cultivators and patrons of science," as Sir Humphrey called them, to subscribe towards the construction of a powerful combination of battery cells, which, although capable of intensely brilliant results for a short time, would be stigmatised in these days as cumbrous and imperfect to the last degree. This huge battery consisted of no fewer than two thousand plates of metal—contained in porcelain cells—and exhibiting a total surface of 128,000 square inches. To the terminals of this battery were fastened copper wires,

and it was when these wires, furnished with charcoal points, were brought together that the most brilliant effects were produced. Here is part of Sir Humphrey's description of the experiment: "More than half the volume of the charcoal became ignited to whiteness, and, by withdrawing the points from each other, a constant discharge took place through the heated air in a space equal at least to four inches; producing a most brilliant ascending *arch* of light, broad and conical in form in the middle. When any substance was introduced into this arch, it instantly became ignited. Platinum melted as readily in it as wax in the flame of a common candle; quartz, the sapphire, magnesia, lime, all entered into fusion; fragments of diamond, and points of charcoal and plumbago, rapidly disappeared, and seemed to evaporate in it, *even when the connection was made in a receiver exhausted by the air-pump.*"

In the above quotation there are two points which should be particularly noted, and which I have italicised. The first is the word *arch*. In Davy's experiment the two charcoal points, or rods of carbon, were held horizontally, and after being allowed to touch were separated by some inches while the so-called *arch* played between them. The arched form was doubtless due to ascending currents of air caused by the great heat, and the phenomenon is interesting as pointing to the origin of the word *arc*-light, which is still in common use to denote that species of electric regulator where two carbon rods are used as terminals.

The other point which I have underlined is important in indicating that the electric light is different from ordinary combustion in being quite independent of any oxygen supply. We read that when the carbon rods were placed under the exhausted receiver of an air pump, the carbon rods glowed with even greater brilliance. In the present day the little pear-shaped glow lamps, which are now becoming so common for interior illumination, depend for their efficiency on the circumstance that the delicate filaments within them can shed its radiance independently of any air supply. Indeed, these little globes are exhausted of air to the greatest possible extent, and only under such conditions will they continue to be serviceable.

From Davy's time up to within recent years many attempts have been made to bring the electric light into competition with the older illuminants, but as long as it was dependent upon the current from any form of primary battery, all rivalry, on account of the excessive cost of electricity under such conditions, was quite out of the question. For occasional experimental use the electric light was seen now and then, and sufficient interest in it was kept up to induce inventors to produce various forms of lamps, or regulators, as they are called. These regulators act simply as supports for the two carbon pencils between which the arc light is produced, and, although they present much variety in details of construction, they have a great family resemblance. In all of them certain conditions have to be complied with, under which only can the arc light be produced. It is essential in the first place that the carbon pencils should actually touch. Directly the current passes they must spring apart for a certain distance, and between them appears the brilliant arc, which is in reality part of the current still playing between the separated carbons. Should the light be from any cause extinguished, the carbons must again come together and be separated before it can be re-established. These automatic movements of the carbon holders upon the regulators are generally brought about by the ingenious use of electro-magnets, which are controlled by the same current which furnishes energy for the light. Some regulators, and especially those of more recent introduction, are far better than others, and it must be evident to the most careless observers that the brilliant

lights now in occasional use act with far more steadiness than those of a few years back. But it is only right to say that this absence of flickering is in part due to the better form of carbon pencil now in use.

Common charcoal is much too soft a form of carbon to be of any practical use for electric lighting, although it served Davy for his experimental lamp. The pioneer workers with the light were quick to appreciate the need of something less fragile, and the recognised material for regulators came to be the harder parts of the coke found in gas retorts, which were sawn into square pencils of half-inch section. But coke is by no means a pure form of carbon, and is contaminated with certain earthy impurities, which, under the intense heat of the electric arc, would spit and sputter, and cause the light to have those irregularities in working which used to be so noticeable. When, therefore, a few years ago the electric system gave signs that at last it could compete with gas illumination, the attention of its advocates was at once turned to the improvement of the carbon pencils. The old method was discarded, and the pencils were manufactured by a process which ensured homogeneity and purity of material.

The process adopted at this time is still followed, but of course experience has induced modifications and improvements. The materials employed comprise lampblack, sugar, and other forms of carbon due to the decomposition of tar, resin, etc., which are intimately mixed, and formed into a paste with gum or other binding material. This paste is formed into sticks of various sizes in iron moulds, which are subsequently exposed to a red heat until all the materials used are thoroughly coked. The product is a perfectly smooth, close-grained, and hard cylindrical pencil, which gives a metallic ring when struck. These carbons are sometimes coated with copper so as to increase their conducting power. It will be understood that these pencils are used only for what is known as the *arc-light* system of electric illumination.

But the other method of producing light by means of electricity has long had an attraction for inventors, although it cannot claim such a pedigree as that already mentioned. The *incandescent* system dates from the year 1845, when E. A. King took out a patent for a lamp which was worked upon an entirely new system. Of recent years this specification of King's has been consulted by experts perhaps more than any other document in the Patent Office, and in truth it would seem to tread heavily on the heels of certain modern inventors. The incandescent system is based upon the fact that when a thin wire of metal or carbon is placed within the circuit of a suitable battery or other source of electricity, it offers such resistance to the current that heat is generated, and it becomes incandescent. When this incandescence is brought about in a vacuum, the light given out is much increased, and the material, protected from union with the oxygen in the atmosphere, does not so soon drop to pieces. In King's first lamp he used a ribbon of platinum foil between two electrodes, but in a later form he employed a stick of carbon in a glass receiver exhausted of air.

(To be continued.)

A SIMPLE PHOTOMETER.—A correspondent writes, "I think the simplest and most reliable photometer is an ordinary radiometer, which can have degrees marked on the glass for timing by the fans of the vane revolving, which is acted on only by the quantity or quality of light at the time of exposure. They can also be made watch form, to screw on to the camera, with a silvered reflector at the bottom to increase the speed if necessary. I think if such a thing were in the market, it would take well."

Hand-Cameras.

By "F. R. C. S."

I THINK that perhaps my experiences during a tour last year in Scotland with a hand-camera may be of practical use to some of your readers, and that I shall be able to answer some of the numerous questions which I see asked over and over again in your columns.

First about hand-cameras. I think that nine out of ten of those advertised are much too bulky to carry about; at any rate, if you have frequently to take walks of five or six miles or more over rough roads. All those which contain a dozen plates to be changed from the outside without opening the camera come under this head, except such as Rouch's and one of McKellen's, where the plates are changed by putting the arm through a sleeve. But why do we want a dozen plates in the camera with facilities for firing them all off in a given number of minutes, as if it was a Maxim gun with the enemy in sight? Surely the result can often be only a lot of careless pictures; and what objection can there possibly be to carrying a double slide or two in the pocket or in a sling-case? There is one very serious objection to all these cameras. When you are touring you must be prepared for anything—not only street scenes and near instantaneous views, which require a double short-focus lens, but also distant views of mountains and lakes, which, to get in perfection, must be taken with a single-view lens, and also with slower plates than are used for the instantaneous pictures. Here the above cameras are completely at fault. The single lens requiring a longer focus cannot be used, or (except in one or two cameras) cannot be changed for another lens, and the plates that you have in must all be gone through in rotation. Most of these cameras, again, do not admit of focussing a view on a ground-glass, another serious fault. If it were not for these last two defects, McKellen's camera, where a sleeve is used for changing, is a very portable model; the 5 by 4 size being only about half the size of most of the quarter-plate cameras. Many cameras, again, are made one-third bigger than they need be, on account of the tube of the Newman's shutter with which they are fitted; and, if I am not mistaken, all those containing a dozen plates are double the depth that they might be if fitted for movable dark-slides instead.

If near instantaneous pictures are the only object of the photographer, I should say that one of the larger Kodaks, with celluloid film on roller, is nearly perfection; but the great objection to it is that you must go through the whole length of film—sixty to one hundred exposures—before you can develop one of them. I am aware, of course, that, at the expense of a great deal of trouble and considerable risk, the film can be cut and fixed again. However, for my part, if I could not use a single view lens on the camera as well as the rapid double lens, I should not care to carry a camera at all. Certainly, during a five months' trip through Scotland last year, I used my single lens six times to once that I used the double.

The details of a hand-camera I think as nearly as possible perfect, are as follows: It should be, first, large enough to take in a compactly-made quarter-plate dark slide, such as Turnbull's. It should be arranged with a sliding body, that when closed would give a focus for a $4\frac{1}{2}$ or 5 in. lens, and should work out by a focussing screw underneath, so as to give a length of focus of about 7 or $7\frac{1}{2}$ ins. for the single lens. The focussing glass when not in use slides into a groove in the door which closes the back of the box. There is a door also in front by which the lens can be got at, and the shutter can be set. The shutter which I have to my camera is Caldwell's. The camera, as far as relates to the size and position of the doors, is much the same as one made by Turnbull, of Edinburgh, but has, in addition, the sliding body and a different focussing arrangement. It has also a finder showing the actual extent of view on the plate at the time. This camera is about half the size of any of those which contain their dozen plates, but is quite as large as most people will care to carry for any distance. Dark-slides can be packed inside when travelling, but when looking out for views, it is much better to carry them in cases made out of black cloth or velvet, in the pocket, or slung in a light case over the shoulder. As to the tripod stand, which I would never be without, there is one made by Mr. Smith, of the Sciopticon Company, which beats all others. It consists of three very light legs of pine, it serves as a walking staff, and is wonderfully firm and strong, far more so than any

of those which fold up into three or four, and it is about one-tenth of the trouble to put up.

Now a few words about developing plates when travelling. The year before last I exposed some dozens of plates when travelling, and sent about three-fourths of them to London to be developed by the makers of the plates. I think one plate out of about a dozen turned out well. The rest of my exposures I took to one or two photographers in towns that I happened to pass through, and saw them developed myself; most of these turned out well. This last year I developed all my plates on the spot; that is within a day or two after exposure. Now I see a good deal in the AMATEUR PHOTOGRAPHER about dark-rooms at various places where amateurs may change or develop plates, and I also see frequent questions about all sorts of very inconvenient changing-bags, and I cannot help thinking that a most delightful little arrangement for changing or developing which I got from Fallowfield has been entirely overlooked by amateurs. It is a small tent, which when packed up looks like an ordinary drawing portfolio. They are kept, I think, of two sizes, 18 ins. by 12 ins., and 24 ins. by 18 ins. I had mine made 20 ins. by 13 ins.; it is about 2 ins. in thickness, cloth and all, when shut up. An illustrated advertisement may be seen in Fallowfield's list. It packs easily in a portmanteau, and consists merely of two pieces of mill-board or light wood, which open out like a book, and are fixed at a right angle by wires. A black cloth is attached round the edges, and when the tent is placed on a table, you can sit down before it, and the cloth is drawn down over the head and arms, and tied round the waist, leaving the arms thus perfectly free to work, and as the cloth extends a foot or so on each side of the portfolio, there is plenty of room. The front part of the portfolio has a red-glass window in it, and there is a ventilator at top. When using this I place the necessary trays, etc., as follows:—On the right is the ordinary bedroom toilet bottle of water; on the left is a deep tray for washing; in the middle the developing tray, opposite the window; on right of window two bottles of developer. I may say here that I always use H. Lewis's developer in two solutions, and find it perfect. In left-hand corner is a small glass, half full of water; in this I place, before and after using, a brush for developing. Lastly, opposite the window is a glass measure, called by some who are fond of inventing new names a "graduate."—in the case of a lady, I suppose, "a sweet girl graduate." I have a light brown paper cover to go over the developing tray, and after developing I wash the plate—or, rather, film, which I always use—two or three times by pouring water over it in the developing dish, and emptying same into large tray on left. I then put the cover over the negative in the developing dish, open the tent, and take out the dish with the film in it to the darker part of the room, away from the light, and put it into the hypo. On the right side of the tent there is plenty of room for the dark-slide or for a box of plates. When I have removed the exposed negative from the slide, and have put it into the dish, I generally put the slide into the bag or fold of the cloth which it forms in front below the table, thus getting it out of the way. In this bag also I keep a cloth to wipe the fingers if necessary. From the form of the cloth of this tent, and the ample space left for the elbows, there is, after getting accustomed to it, no sense of confinement, and I find it so comfortable and convenient that I do all my development in it, even when at home. It could be used perfectly with much larger plates than the quarter, and it is taken out of your portmanteau and put up in less than a minute.

The films I used last year were Carbutt's for instantaneous pictures, and Fry's, of the second degree of rapidity, for views with time exposures. These last I found very good indeed. Carbutt's were sometimes spotty. By the by, can any reader of the AMATEUR PHOTOGRAPHER say whether there are any good isochromatic films to be had, or is it likely that Mr. Edwards will either make some or let anyone else make them for sale?

It will be seen that to be in a position to take with a hand-camera good views as well as quick pictures, we must have, at any rate, two, if not three, kinds of films or plates, and that consequently they must be carried in dark slides. There must also be the possibility of changing the lens. By having the slides made of different coloured wood, or the shutters which draw out, some of mahogany and some of vulcanite, there need be no fear of confusion. In travelling it is of great consequence to reduce the impedimenta as much as possible. I take no chemicals beyond the two bottles of H. Lewis's developer and some hypo, and the films require no alum. Before starting on a tour, take.

the films out of the paper envelopes in which they are sold, get some well-made flat tin boxes one-sixteenth inch each way bigger than the films, and about one inch deep, lay a piece of yellow paper across each way as lining for the box, with ends to turn over, and pack your films in with tissue paper between each. This will save all the trouble of unfolding four or five different papers to get at the films, which is a great nuisance in a small dark tent. The tin boxes should have outer cases of brown paper or millboard.

The "American Amateur Photographer."

DR. P. H. EMERSON'S ENGLISH LETTER.

WE are pleased to notice from perusal of the January number of the *American Amateur Photographer*, that from the able pen of Mr. D. Harbord the following letter has been received and published:—

"Dr. Emerson's letter on the exhibition of photographs at Pall Mall is unlikely to disturb or interest American readers. It is equally certain that the exhibitors themselves can afford to be amused or indifferent, as the worthy doctor is well known to be absurdly extreme in his ideas of art, and very unscrupulous in his criticisms as formed through his remarkably solitary pair of spectacles. I myself am one of those unpretentious or grossly incompetent votaries of photography who have practised the art since the infancy of collodion, and yet have never exhibited a picture, good, bad, or indifferent, and the more I see of the judgment of *quasi* artists the more thankful I am never to have had a grievance against the Drs. Emerson of the hour.

"What particularly amuses me is the way in which certain amateurs are propping each other up, who, in my hearing, have in times passed smiled in pity upon one another. I particularly remember one of those scathing, scalpel-like criticisms, in which the doctor excels, of one of his own great (?) 'naturalistic' pictures which people were afraid of not believing in, for the Doctor was *the* man then. I allude to an awful abortion representing a man ploughing up-hill with a pair of horses. The man's foot was as long as the horse's head, and the whole picture so gloriously 'naturalistic,' i.e., 'fuzzy' or 'focussed with judgment,' that it was denounced as an imposture. Another nondescript represented two women in a fog, apparently looking for something they had lost: not an iota of detail; all left to the fervid imagination of the 'naturalist.'

"And yet 'focussing with judgment' found a very reverse effect in a decapitated head of an old salt. Every wrinkle, line, and spot was depicted as sharp as lens could make it.

"Occasionally the Doctor has won the hearts of admirers over some lovely photographs such as 'Gathering Water-lilies,' but he is never free from adverse criticism; his boasted 'subjects' are often inappropriate, as witness the woman 'gathering,' who suggests the wash-tub.

"The name of an advanced student of the anti-focus or 'fuzzy' school is descanted upon, but I have a lively recollection of that turncoat showing me work, the sharp focussing of which was his pride and delight. One thing is very patent in the Doctor's letter: he is more bent on vituperation—*vide* his rage at Robinson's masterly work—than on reformatory criticism, and his airs of superior judgment, to which he is solitary witness, deprive him of any hope of being valued at his own estimate.

"Anything more silly than his laudation of Mr. Davidson's pinhole pictures could hardly be conceived. They simply show what can be done with nothing, and how very undesirable the attempt is. The Doctor's pedantic desire to 'educate the great outside public' to his views of what photographs should be, will never be realised by such asperity as he indulged in by his denunciation of 'spurious effects,' 'meretricious clouds,' etc. His only chance lies in a practical demonstration of what art is, and I, for one of the many, fail to appreciate it in nine out of ten of his pictures, nor to realise it from his writings."

PHOTOGRAPHIC CONVENTION OF THE UNITED KINGDOM: LENS STANDARD COMMITTEE.—Opticians, and all interested, are invited to a meeting to be held at the Mona Hotel, Henrietta Street, Covent Garden, on the 25th April, at 7 p.m., to discuss the desirability of adopting and further defining "the lens standards" of the Photographic Society of Great Britain.

"Thursday Evenings" at the Camera Club.

BY ONE OF OUR STAFF.

ON Thursday, April 10th, there was an exhibition of lantern-slides, eight or nine members contributing towards the show. Mr. Gambier Bolton exhibited a new set of animal slides, Mr. Elder some Dutch scenery, Mr. Ferrero landscape work, and Messrs. Grimshaw, Howson, Robertson, and Noel-Cox pictures of various kinds. A very interesting set of arctic subjects, lent by Messrs. Fry, were also shown and described, and a variety of slides by the Woodbury process. During the evening, proofs of his recent pictures "The Haysel," and "Breezy Marshland," presented by Dr. Emerson to the Club, were exhibited.

On Thursday, April 24th, there will be a discussion upon Mr. Dallmeyer's paper read at the Conference, the subject being "The Treatment of Subjects by Focus."

Our Contemporaries at Home and Abroad.

THE *Journal of the Society of Arts* gives the following, in a paper read by Mr. W. J. Linton: "Colour alone (I mean mere light and shadow) can also represent form, but if that colour has to be got by lines, the law of line comes in absolutely. I do not mean to depreciate the value of tone or of delicacy where wanted. I only contend against exclusive attention to colour and tone, and insist that when you must use lines those lines shall have meaning. An engraving in wood is producible only by lines, and you cannot by any excess of fineness get rid of the lines. Is it not well, therefore, that what must be seen should be good, or say, at least agreeable? Is it not clear that as all your work is done in lines, the more these lines express or indicate, the more complete and satisfactory will be your work? Shall they not, even by their direction, rather explain or help to explain the shape or substance you have to represent with them, than distort or hide it? In the photographic imitations in the *Century* and *Harper*, and elsewhere, all thought of the values of line is abandoned. Whatever the value of colour, of tone, of fineness, does that necessitate an absolute disuse of line? Dis-use, for in the cuts I condemn line is not used, it is only put up with, its real use is avoided. It may be that this is wilful. There may be engravers who prefer to have no differential intelligence in their lines. I would still ask them to care a little for some pleasantness of beauty, confessing, however, that I have not much hope of beauty without intelligence."

The *American Journal of Photography* (Philadelphia), in an article on "The Metric System," says, "But further, the metric system is used by the whole civilised world, except English-speakers, and among the latter is used by all chemists. It is actually in universal use by chemists throughout the world. This is a good reason why all arts dependent on chemistry should use it, such as photography, medicine, and pharmacy. And it modifies the personal equation, because most English chemists think in grams. Another change that seems to me greatly needed in the mode of stating photographic formulæ is to give the strength actually used, and not that of the stock-bottle. Every man with brains enough to be a photographer at all, can make his stocks of a degree of concentration to suit his convenience, or the size of his bottles. Articles: "Photography in Criminal Jurisprudence," "A Seasonable Suggestion," "Some Possibilities of the Continuous Film," "Enlargements," "Emulsions," "Toning and Fixing," "Amateur Experiences," etc.

The *Naturalist's Record* contains good reproductions of "The Gate of Honour, Caius College, Cambridge," "Mount Pilatus overlooking Lucerne," and "The Lake of Lucerne." Articles: "Chats about Things Around us," "North American Birds' Nests and Eggs," "Jersey and Guernsey," "My First View of the Alps," "Some Notes on Migration," "Photographic Competitions," etc.

The *American Lithographer and Printer* (New York) says, "Very pretty effects may be produced by printing on ordinary albumen paper sensitized with the following solution:

Citrate of iron and ammonia	...	...	3½ drms.
Dissolved in water	...	...	2 ozs.
Red prussiate of potash	...	...	2½ drms
Dissolved in water	...	...	2 ozs.

Mix equal parts just before using, as the mixed solution will not keep, and float the paper as on the silver bath, film down, for half a minute or so, and suspend by one corner in a dark room to dry. Detail can be brought out almost equal to silver prints, while the ease of working and the cheapness make it quite desirable. The prints can be mounted and burnished. Do not try to keep the paper sensitized, but make up fresh when wanted." Articles: "A New Photo-Lithographic Transfer Paper," "A Photographic Stone-Etching Process," "Improved Photo-Printing Plate Process," etc.

The *Camera* contains articles on "Photographic Chemicals," "Exposure," "An Automatic Portrait Machine," "Crystal Palace Exhibition," "The Art of Photography," "Proposed Institute of Photography," and also two fair Meisenbach reproductions, one of the Forth Bridge, and the other of a gipsy dancer.

The *Photographic Times* (New York) says, "Mr. Gayton A. Douglass, of Chicago, sends the following hydrochinon formula, which he says is being largely employed by the Chicago Camera Club. 'It is recommended for negatives, lantern slides, and bromide prints,' he writes, 'the formula being that of James Colgrove, a member of the Chicago Camera Club.'

No. 1.

Hydrochinon	..	..	..	} each 90 grs.
Eikonogen	..	..	..	
Meta-bisulphite potassium	..	..	..	

Add water to make 16 ounces.

No. 2.

Carbonate of potassium	..	..	} each 1 oz.	
Carbonate of soda, crystals	..	..		..
Yellow prussiate of potassium	..	..		..

Add water to make 16 ounces.

To use, take:

Water	..	..	..	..	..	1 oz.
No. 1	..	..	..	..	..	1 oz.
No. 2	..	..	..	..	..	1 drm.

Or as needed." Articles: "Photographing Interiors," "Filtering Gelatine Emulsion," "Helps in the Studio," "Slow versus Rapid Plates," "A Copyrighted Shadow," etc.

Photography, in an article on "Mounting," says, "No more suitable resting-place can be found for a photograph, be it a platinotype or silver print, than a good Bristol board, by which term mounting boards which do not pass through any water-proofing or enamelling process are known; their principal objection is that they are easily soiled, and as many people cannot take up a photograph without leaving their thumb mark on it, Bristol boards cannot be recommended if the photograph is likely to be much handled, but what is known as enamelled or waterproofed board is preferable. The quality of these can be tested in the same way as Bristol boards, and it is also advisable to test them further by soaking a piece of one in water for some hours, when their bad qualities, if they have any, will be developed, and the water in which the piece is soaked can be tested for hypo. Highly smelling mounts, or mounts that seem to contain more plaster than fibre, should be avoided. The former will be the speedy death of any silver print, and the latter will cause much trouble by the edges of the mounts breaking away, and getting between the photograph and mount." Articles: "On the Copying of Photographic Prints," "A Table of Photographic Exposures," "Fine Art and Industrial Art," "Photographing Natural Colours," etc.

Wilson's Photographic Magazine (New York), in an article on "Preparations," says, "A ten-candle-power electric glow-lamp was, therefore, last month easily told off for service into the tall photo tent, its glass bulb 'frosted' to diffuse somewhat the very intense light of the carbon filament, and then enclosed into two coloured glass bells of much larger size, one red, the other green, furnished by a great photographic company in London, to render the otherwise beautifully white electric light incapable of acting on the most sensitive photo plate, even through a long development, and yet to retain a large amount of visible illuminating power for the eye. But what was the effect obtained? Nothing like it! The plates did not, indeed, blacken under the developer before the doubly colour-belled lamp so rapidly as they had done before a white one; but in one minute or two minutes of exposure, and at thirty inches distance, with hydrochinone develop-

ment, the impression became nearly coal-black!" Articles: "The Evolution of Photo-Engraving," "Landscape Work in Newfoundland," "A New Photogravure Process," "Art," "Photographic Freaks," "Emulsions," "Choice and View in Landscape Photography," "Photographic Entertainments," etc.

The *American Amateur Photographer* (Brunswick, Me.), in an article on "Prints on Plain Paper," says, "We can recommend the following formula as well suited for toning plain prints, having used it for some time with satisfactory results. It keeps well, improves with age, and is a good bath for fine work with mat paper:

GOLD STOCK SOLUTION.

Chloride of Gold	..	..	..	..	15 grs.
Water	..	..	..	..	7½ ozs

Two drams of this solution, neutralised with a pinch of chalk, are added to ten ounces of boiling water, and filtered into a quart bottle in which two drams of acetate of soda have been placed. When the soda is dissolved, the solution is made up to twenty ounces. The bath should be allowed to stand for some hours before it is used. The prints are well washed before toning, and great care must be taken to avoid over-toning. At the same time the prints must be thoroughly toned, as weak tones will disappoint the worker. A safe rule is to tone to a rich lilac, just verging on blue, for dark tones, and not so deeply for sepia. The after operations of fixing and washing do not differ from the usual procedure. When the printing has been very deep, as it must be for black tones, it is well to add fifteen or twenty grains of salt to the bath, to produce a bleaching action on the whites." Articles: "Rambles through the Rangeley's," "The Record of a Ramble" (illustrated), "A Vacation Trip through Canada," "Photography from a Woman's Standpoint," "The 'Eiko' Developer," "Flash-light Photography," "The Advantages of Photography to the Amateur," "Photography of the Least Refrangible Portion of the Solar Spectrum," etc.

The *British Journal of Photography*. Articles: "The Ultimate Effects of Hypo Eliminators," "Fading," "The Art of Retouching," "The Camera Club Conference," "Binocular Vision and the Stereoscope," etc.

The *Journal of Microscopy* contains articles on "The Parasitic Fungi of Insects," "Dips into my Aquarium," "On Certain Phenomena of Hypnotism," "On a Simple Tank Microscope," "The Pine Destroyer," "A New Staining Method," etc., and numerous plates.

The *St. Louis and Canadian Photographer* (St. Louis), says, "A simple and expeditious way of saving the silver contained in water from print washings is to place in a funnel a piece of cotton or filter paper, which has previously been saturated with strong salt water, and pour into the funnel your wash water containing silver; the chloride will all be caught on the filter, and nothing but clear water will pass through, which can be at once thrown away. If you have more washings than your funnel will hold, pour it into some unused bottle, tray or dish until your funnel is empty, then pass the remainder through. Your chloride is in much better condition to take care of, also for the refiner to handle, and you will save more silver. Some muslin cloth sewed to a hoop, the size of a pail, jar or cask, in a manner to allow considerable of the muslin to hang down funnel shape, will answer the purpose of holding the filter paper to catch the silver, remembering, that the filter paper must be soaked in salt water." Articles: "Is there a Blister Season?" "A New Eye," "The Old versus the New," "Stereoscopic Photography," "Among the Masters," "Incidents in my Experience," "What I Know about Printing," "School of Photography," "A Machine Camera," etc.

The *Photographic News*, in an article on "Aluminium in Photographic Apparatus," says, "The dream of half a generation ago of the advent of the time in which aluminium should be used, not alone for lens mounts and the screws of cameras, but for the cameras themselves, now seems likely to be realised within a moderate period, for aluminium has been steadily falling in price, and at the present time can be bought, of good quality, at fifteen shillings a pound, and of superfine quality at twenty shillings a pound. Worse qualities can be had at eleven and thirteen shillings per pound. The lower the quality of the metal the more brittle it is, and the more likely to be attacked by various chemical reagents. There are rumours in commercial circles that aluminium before long will fall in price to about six

shillings a pound, but whether there is any substantial foundation for the report we do not know." Articles: "On the Sensitising and Conservation of Albumenised Paper," "Photography in Natural Colours," "The Art of Drawing and Photography," "Photographic Groups," "The Latent Image," etc.

The *Photographische Rundschau* contains articles on "The Spectroscope and Photography," "Flashlight Apparatus," "Detective Cameras," etc., and the frontispiece is a photogravure of a view in the Prentin Wood, Cheshire, taken by Mr. Paul Lange.

L'Amateur Photographe (Paris) gives the following: "Albumen prints are washed in the ordinary manner, and then placed in a weak bath of acetate of soda and gold. Toning is allowed to proceed until warm tones are obtained. Then wash the prints in plenty of water and place them in a second toning bath, which is also a fixing bath, made up as follows:

Hyposulphite of soda, 10 per cent. sol. . . . 500 grs.
Powdered acetate of lead 1 gr.

The prints should remain in the bath about ten minutes, when they will rapidly take a good black tone." Articles: "Photography and its Industrial Applications," "Aerial Photography," "Repairing Broken Negatives," "Development by Eikonogen," "Reproduction in Black and White," "Practical Photography for Amateurs," etc.

The Photographic Society of Philadelphia is to be congratulated on its well-filled and useful library, a catalogue of which has just come to hand.

Science Notes.

MESSRS. THACKER AND Co., of London and Calcutta, have just published a valuable work on the "Grasses of the Southern Punjab," by Mr. Coldstream. It is illustrated by thirty-eight plates done by photo-lithography; and the reproductions are so good that the botanist who reviews the book in last week's *Nature* is able to correct the naming of several of the species from an examination of the plates alone.

In the Bournemouth Industrial and Loan Exhibition, which was opened on April 7th, Mr. Jones exhibits a series of specimens illustrating the various stages in the production of a photograph. This is a happy idea in the direction of educating the public, and might be copied with advantage elsewhere.

On March 31st, M. J. Fogh presented to the Paris Academy of Sciences a memoir on the action of hyposulphite of soda on silver salts, in which he dealt chiefly with the amount of heat disengaged during the chemical reactions which took place.

Drs. Brodhun and Lummer, of Berlin, are engaged in the attempt to construct an electric lamp which shall serve as a standard of light. They have already obtained a glow-lamp which, when fed by accumulators, does not vary more than 1 per cent. during 200 hours.

Professor A. S. Herschel has been studying the spectrum of sub-chloride of copper, and he writes (*Nature*, April 3rd), "There is much in these resemblances which betokens some kind of continuity of connection with the primary features of the chlorine spectrum itself; the evidences of which, although thus displayed by copper and chlorine in the spectroscope, may perhaps be sensibly regarded as having some near relation of analogy to the appearance of variable chemical combining power under the influence of light, between silver and chlorine, presented in photography; but there is also, undoubtedly, a very marked distinction between the "spectroscopic reactions" of these two different copper chlorides; and, similarly, there are in the apparently mutable photo-chemical affinity between silver and chlorine in photography, two fairly stable delimitations of its range in the "sub-chloride" (or, as it has been termed by Mr. Carey Lea, the "photo-chloride") of silver, and in ordinary silver-chloride. Further, discriminations of the copper-chloride spectra in intermediate forms, which they seem to comprise transitionally between the two definite ones of the chloride and the sub-chloride, would perhaps extend and strengthen this analogy, and may not impossibly help, at some future time, to explain and illustrate it, if there is any real soundness in it, more fully and completely."

Professor Raphael Meldola, F.R.S., is to lecture before the Royal Institution on Friday evening, May 16th, on "The Photo-

graphic Image." We look forward with considerable interest to the manner in which the lecturer will treat the contesting theories of Carey Lea ("photo-chloride") and Hodgkinson ("sub-chloride.")

A Photographic Society has been formed at the Mason College, Birmingham. Dr. Nicol (the inventor of the "Kallotype" printing process) is the President, and Messrs. Tuckwell and Pugh are the Secretaries.

The Lancet (April 12th) reports a case of death from poisoning by hydrochloric acid, one of the commonest chemicals used by the photographer. About one ounce of the strong acid was swallowed by mistake, and the patient (although at one time apparently restored to health) died three months afterwards from the corroding effect of the acid upon the coats of the stomach. The treatment (at the Charing-cross Hospital) consisted in the administration of a solution of carbonate of soda, with some milk and white of egg.

Mr. W. H. Symons has compiled, and Messrs. Gallenkamp and Co., London, have published a very complete series of well-gummed chemical laboratory labels.

The following notice has been issued by the Royal Geographical Society: "It would greatly add to the value of the collection of photographs which has been established in the Map Room if all the Fellows of the Society, who have taken photographs during their travels, would forward copies of them to the Map Curator, by whom they will be acknowledged. Should the donor have purchased the photographs it will be useful for reference if the name of the photographer and his address are given." Here we have the inception of a photographic survey of the world! The R.G.S. has also made arrangements by which Mr. John Thomson (author of "Photographic Illustrations of China and its People," etc.) will instruct intending travellers in the art of photography. The Society's Rooms are at 1, Savile Row, London; and the acting Secretary is Mr. H. W. Bates.

In the new volume of the Badminton Library, on "Golf," the illustrations which represent the phases of actual motion of the body, as in striking the ball, putting, etc., are all copied by artists from actual photographs. We cannot but feel, however, that it would have been far more satisfactory to have had the photographs themselves reproduced by collotype, for example.

There is one decidedly comic illustration (p. 214), entitled "Keep your Eye on the Camera," in which the golfers posing to be photographed cut a very amusing figure.

Mr. Edward Hailstone, of Walton Hall, Yorkshire, who died recently, will be remembered for his fine work, in two volumes, on "Yorkshire Worthies," which he illustrated with 200 photographs, from pictures exhibited at the National Exhibition of Works of Art, held at Leeds in 1868.

I strongly advise every purchaser of a hand or detective camera to test it before purchase, and see if it is *light-tight*. Remove the back of the camera, cover the head and the camera with an opaque cloth, and point the instrument to the sky. Allow the eyes time to become accustomed to the darkness; the least glow of light then visible should condemn the instrument. I write as a sufferer.

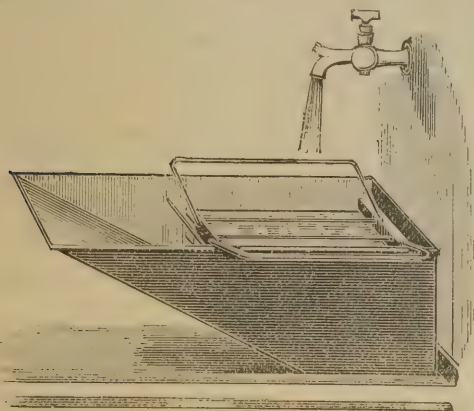
F. G. S.

OAKSHOTT'S "SALE AND EXCHANGE ADVERTISER."—During the last few months Messrs. Oakshott, of Falmouth, have showed considerable energy in providing for the wants of the amateur photographer and naturalist. Their latest venture is a sale and exchange advertiser, issued upon somewhat novel plans, which may be of service to some of our readers in the West of England.

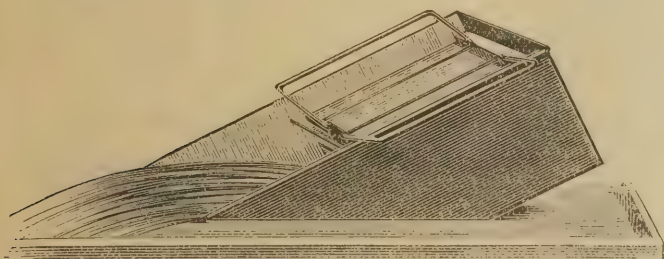
PORTFOLIO CLUB.—Mr. E. J. Hughes, of 3, Colville Gardens, Bayswater, writes us that he has a few vacancies in his Portfolio Club for amateur photographers, both ladies and gentlemen. The rules are as follows:—(1) The Club to consist of not more than twenty-six members. (2) The subscription to be 2s. per annum. (3) Two portfolios to be sent round every month. (4) One print, by any process, to be inserted in the portfolio every month. (5) The portfolio to be retained two days. (6) Each member to criticise the prints. (7) Particulars as to exposure, developer, etc., to be given with each print contributed. (8) Members wishing to resign to give one month's notice. (9) When members receive the portfolio every month, they are expected to give notice of its safe arrival, by post-card, to the Hon. Secretary. These rules are subject to any alterations which the majority of the members agree to.

Apparatus.

MR. WILLIAM TYLAR, 57, High Street, Aston, Birmingham, has sent us another novelty—a plate and print washer. The illustration shows the washer being filled, and automatically being emptied.



Really the operation is simplicity itself. Of course it is best that the washer stand in a sink. The weight of the water coming upon the shallower end tilts the washer and releases the water.



The idea is ingenious, and adds another mark to Mr. Tylar, who has introduced so many excellent aids to photography. The apparatus may be seen at our offices.

* * * *

A NEW CAMERA.

The new camera (Colonel C. O. Ellison, Liverpool) is attracting some lively interest. The new instrument is perhaps best designated "The Combination," being so constructed and arranged as to be used either as a hand-camera or fixed on a tripod in the ordinary way. It is 9 by 8½ ins. by 7½ ins. over all, and when fully charged with twelve 5 by 4 ins. plates in six double-backs weighs about 10½ lbs., the object sought being to have a camera for any kind of work self-contained and complete in itself. This obviates the necessity of a travelling case or loose fittings. The "combination" frame or box is covered externally with leather. Inside it is fitted with an Optimus Eury-scope lens, interchangeable with a Dallmeyer wide-angle for interiors. Both are mounted on a sliding frame, which can be drawn out in the front and allow of the use of a single lens for long-focus work, a Kershaw shutter being attached for time or instantaneous exposures. The focussing is on an entirely new principle, the glass screen being moved by a sliding arrangement on each side of the camera, with screw and graduated scale; this enables the operator to focus at once to any required distance, and getting all the effects of a swing-back frame, the subject being seen "right side up," and without the use of the black cloth. Also by the adoption of the new focussing arrangement (recently patented by Colonel Ellison) the apparatus is workable while the camera is held for snap shots or fixed on the tripod, the latter being constructed on the ball-and-socket principle. The reversible back is dispensed with, the bottom of the camera being hinged and allowing of the turning over of the instrument by the withdrawal of a catch; thus vertical or horizontal pictures can be taken at will. The tripod head, it may be added, is of hard wood, giving all the advantages of the

metal ball-and-socket arrangement hitherto used, but without the great weight. When folded, the legs are only 20 ins. long. It is anticipated that the "Combination" only requires to be known to ensure its adoption by a great many amateurs.

* * * *

THE "GIAH" NEW AUTOMATIC HAND-CAMERA.

We have, through the courtesy of Messrs. Mawson and Swan, of Newcastle-on-Tyne, and 33, Soho Square, London, had an opportunity of examining the Giah camera. The mechanical movements of this camera are carefully worked out. It is fitted for twelve plates, which require no backing, and are brought into position in the exposing chamber by means of a rotary slide. The plates are stored in a chamber *over* the lens, and by a slight "tip" and one turn of a lever are brought into position for exposure; by another turn of the lever and a slight "tip" the plate is placed, after exposure in a chamber, *under* the lens. By an ingenious mechanical contrivance—in fact, a stop or block—it is impossible to rotate the exposing chamber until the plate has entered it from the store chamber, nor can the exposure chamber rotate except to discharge the exposed plate. The working parts of the apparatus are made with mathematical precision, all the brass work being made to gauge up to 1,000th of an inch. Each camera is fitted with a first-class lens and ingenious shutter. It is in every sense a detective camera, being small and very compact. The whole of the working parts are made of metal, and for foreign travel, especially in the tropics, we shall, after having thoroughly examined the apparatus, pronounce it most serviceable. It is made in two sizes, lantern plate and quarter-plate.



Notes from the Liverpool Centre.

(From our District Editor.)

LATEST advices from the Lancaster Photographic Society show that the society is in a flourishing condition. A busy and prosperous session is confidently looked for by the executive, the members being attentive and energetic. At the general annual meeting of the society held last week, Mr. J. W. Prickard in the chair, eight new members were elected: Messrs. H. L. Storey, C. Ford, H. J. J. Thompson, R. F. Housman, R. Tomlinson, H. Gilbert, Dickinson, and Sudell. The officers for the ensuing year are: President, Mr. H. L. Storey; Vice-Presidents, Mr. Jos. Parkinson and Mr. J. W. Prickard; Hon. Sec., Mr. W. Briggs; Hon. Treasurer, Mr. A. R. D. MacDonald; Committee, Messrs. H. A. D. Jowett, S. Fawcett, D. Bone, and W. C. Roper.

A number of alterations have been made in the society's rules, and the last Tuesday in the month has been fixed for future monthly meetings.

"One of the Crowd" writes to the *Liverpool Review*, a leading weekly paper here, severely rapping the local Libraries and Arts Committee for not treating the promoters of the Liverpool Photographic (1891) Exhibition more generously in the matter of the scheme. The Committee in question advanced the rent of the Walker Art Gallery rooms, where the exhibition is to be held, £5 a week. Local feeling is distinctly in favour of the promoters of the exhibition. The "conditions" attaching to exhibits for the forthcoming Liverpool show, submitted in the AMATEUR PHOTOGRAPHER of last week, have yet to be confirmed by the Council of the Liverpool Association.

Art and Pleasure Combined.—There was a muster of twenty members at the picnic to Rabymere last Saturday, organised by the Liverpool Society. Some excellent studies of the pretty, rustic scenery in the neighbourhood of the Mere were taken, the weather on the whole being fine and genial. The "out," however, was not allowed to pass without some fun, which, since Saturday, has been all the theme. Rabymere is some two or three miles from the nearest railway station (Bromborough), and on the return journey Mr. T. Mayne, Hon. Sec., ensconced himself and his "traps" on a forlorn black charger boasting a lady's side-saddle. The distinguished Vice-President, Mr. Tomkinson, and the not less distinguished member of Council, Mr. J. L. Mackarell, clambered on to donkeys. The trio had the utmost difficulty in keeping their steeds from occasionally lying down under the hedges on the roadside. Happily, however, they struggled through to Bromborough without serious accident, and

were forthwith dubbed "Bill Adams and his body guard"—the immortal Bill who, with slight help from the Iron Duke, defeated "Bony" at Waterloo, and saved Europe.

Optical Lantern Evening.—This is nearly midnight, Tuesday, and I have just got home from the City Hall, Eberle-street, where an excellent entertainment has been given, thanks to the Liverpool and Birkenhead Associations. Upwards of 400 ladies and gentlemen were present, each one of the audience evidently enjoying the instructive and interesting fare provided. The first part of the evening, from 7.30 to 8.45, was devoted to a descriptive lecture, "The Hundred of Wirral," by Mr. John Hargraves; half an hour for refreshments followed, and then Mr. Fred Clibborn took us through "Normandy," the tours being got through soon after ten o'clock. It was originally intended to follow the "Hundred of Wirral" pictures with the "White Mountains," the new Boston (U.S.A.) set, but these not having come to hand, "Normandy" was substituted, and, to speak the feeling of the audience, the Boston set would have had to be superlatively good to rank with Mr. George Thompson's exquisite collection. Mr. Hargraves and Mr. Clibborn both proved excellent lecturers, and—noteworthy coincidence—both rattled away in delightful Mark Twain fashion, as refreshing as it was pleasing.

Mr. Hargraves explained that the 160 or 170 slides embraced in the "Hundred of Wirral" collection were the best of 400 originally taken by some thirty-one members of the Birkenhead Society, which Society was the first to introduce the photo-historic survey now extensively followed by photographic organisations. His introduction was largely geographical, historical, and ecclesiastical; wonderfully comprehensive and largely instructive, ranging from the time of King Alfred. Taken all round, the slides were very high class and came in for frequent loud applause.

Mr. Clibborn explained that the "Normandy" pictures were from negatives taken by Mr. George Thompson, during a holiday tour last August. The many pictures were much admired, most of the really superb effects, perhaps, being interiors of old cathedrals, found in the numerous ancient and picturesque towns of Normandy. The humorous and felicitous remarks of Mr. Clibborn, who had accompanied Mr. Thompson on the tour, added much to the interest of this show.

The slides were shown on the Liverpool Society's own 16 in. by 8 in. screen, through an Archer oxy-hydrogen biunial lantern. Mr. Paul Lange filled the office of Chairman, the worthy President and Mr. Mayne (Hon. Secretary) being most assiduous in their efforts to make all comfortable.

Exhibitions.

BELFAST Y.M.C.A. CAMERA CLUB EXHIBITION.

THERE were nineteen classes, the first eight being for members only, the other eleven being open to amateurs. Two gold, ten silver, and seven bronze medals, a fine enlarging lantern, and opal enlargement were offered for competition.

Class 1 (Junior; those who started photography in 1889; six pictures, any subject).—The bronze medal offered in this competition goes to Mr. T. F. Bell for six aristotype prints, mainly views taken near Dublin.

Class 2A.—Mr. T. F. Bell again wins the bronze medal in this class for six Obernetter prints, principally cattle scenes and Lagan views.

Class 2B.—Dr. Stanley B. Coates, the President of the Club, shows four Blanchard prints, framed separately in black reeded frames. "Ess-na-Crub," the principal waterfall of Glenariff (the new tourist district of Antrim, now opened by the narrow-gauge line), and the "Mountain Farm," are his best prints. He takes the silver medal for these and two other Antrim views. He also sends in a set of aristotype prints from the same negatives, which show plainly that a good, vigorous negative is not so suitable for his process as a thin, rather fully-exposed one. The bronze medal goes to Mr. D. B. Scott for four pretty aristotype prints of the Cave Hill and some Lagan scenes.

Class 3 (Portraits).—Mr. G. H. Hamilton, the energetic Secretary of the Club, obtained the silver medal in this class. He sends three frames of groups and single figures, his best being the smallest print of the set—a pretty child with one knee on a chair.

Class 4 (Animals).—Mr. Bell is again successful in this class,

taking the bronze medal offered, for a set of lions, tigers, and zebra, taken at the Dublin Zoological Gardens.

Class 5 (Work done on Club Excursions).—Mr. H. McCleery takes the silver medal for four Blanchard prints, the best being his view of Ess-na-Larach, the most troublesome and dangerous of all the Glenariff Falls to photograph. Mr. Hamilton secures the bronze medal for a set taken on the Glenariff and Lagan excursions.

Class 6 (Lantern Slides; to become the property of the Club).—The Club become the owners of seventy nice slides by this competition, a very fair start, the valuable lantern offered going to Mr. D. C. Beggs, for a set of ten miscellaneous; Mr. Hamilton receiving the second prize for a similar number, the best of which are, a portrait of a lady, and a group of narcissus, a Blanchard print of this latter being the best of the two floral studies for which he secures the medal in Class 7—Floral.

Class 8 (Opalines).—The silver medal offered for the best two opalines was awarded to Dr. Coates, who sends six, two of which are mounted on plush backs.

Class 9 (White Frost and Sheere Church). The two prints sent by Mr. A. R. Dresser gain him the gold medal.

Class 10 (Enlargements).—W. H. Kitchin well deserves the silver medal for his "Village Smithy" (which also takes the gold medal for the "best picture in the Exhibition," Class XV.). He also secures the bronze medal for a glen scene. Mr. A. R. Dresser sends the boat towing behind a steamer, but much less touched up than the print which he sent to the Ulster Amateur Photographic Exhibition last year, and the merits of which were much debated on, owing to its having taken a prize there. This enlargement is the best and most suitably mounted of Mr. Dresser's exhibits. Mr. Swanston sends two enlargements from quarter-plate films of scenes in Norway. Messrs. Kitchin, Strain, and McCleery also exhibited. This class had the largest number of entries, there being sixteen frames sent in.

Class 11 (Instantaneous).—The judges did not consider the merits of the exhibits in this class worthy of a medal, and withheld it.

Class 12 (Lantern Slides).—Mr. A. R. Dresser takes the silver medal for six very pretty slides, the best of which were a burst of spray and group of cattle.

Class 13 (Portraits).—No entries.

Class 14 (Architecture).—Prize withheld, owing to insufficient merit of exhibits which were average samples of work done by beginners.

Class 15.—See Class 10.

Class 16 (Best two Negatives).—Dr. Coates is successful in this class, taking the silver medal for a negative of Portaferry, with sunk schooner in foreground, taken from the jetty at Strangford, and one of Castleweller, Caster, seat of the Earl of Annesley.

Class 17 (Maine).—Bronze medal won by Dr. Coates for Blanchard prints, the two best of which are his Strangford and Portaferry views, one of the latter from the negative which secured the medal in Class 16; he also sends the same view printed by aristotype process.

Class 18 (Best picture on Ilford plate).—Both silver and bronze medal go in this case to Dr. Coates, for his "Summer Weather at the Copelands"—children wading about, while their mothers are enjoying a quiet chat on shore, and his view of the pretty little coast village Carnlough. The boats in this view make an effective foreground.

Class 19 (Best picture on Fry plate).—In competition for the opal enlargement offered by Messrs. S. Fry and Co., Mr. A. R. Dresser sends the picture of "A Child and Dog," which was reproduced by the AMATEUR PHOTOGRAPHER as a full-page supplement in the last "Home Portraiture" number. This picture has been much criticised, both in the exhibition and also when it first appeared in the AMATEUR PHOTOGRAPHER, the majority of critics agreeing that the large white sash mars the general appearance very much, the judges, however, awarded it the prize.

DUNDEE AND E. OF SCOTLAND PHOT. ASSOC.:—On the 8th inst. a general meeting was held, Mr. J. D. Cox in the chair. Excursions were arranged to take place on May 21st, the Trossachs; June 28th, Lochearnhead; and the date of a third was left open. The President (Dr. J. K. Tulloch) read a paper entitled "Selecting a Lens." Specimens of "Kallitype," a new printing process, were on exhibition, and a demonstration of the process was promised to be given at the May meeting.

Societies' Meetings.

NOTE.—In this column the Editor can, of necessity, only give a brief summary of the proceedings. The PHOTOGRAPHIC SOCIETIES' REPORTER was established to report the transactions of Societies, and the Editor will be glad to receive reports for insertion as early as possible after the meetings have been held, and at the latest before the 24th of each month.

BIRKENHEAD PHOT: ASSO:—The ordinary monthly meeting of this association was held in the association rooms, Price Street, on Thursday, the 10th of April. The President, Mr. P. H. Phillips, drew the attention of the members to the forthcoming convention, to be held in Chester during the last week in June, giving a brief outline of the week's programme, and urging upon each one the desirability of availing himself of the opportunities such a convention afforded. Mr. W. B. Beaton (Messrs. J. J. Atkinson and Son) exhibited a cheap form of casket lens, capable of being used at a focus of 5, 7, or 9 inches. Mr. G. A. Carruthers exhibited a flash lamp constructed out of a clay pipe, with which he obtained a very powerful light. Mr. W. A. Brown then gave his paper on the "Chemistry of Photography," illustrating the same with experiments. The annual outdoor competition will take place at Bidston on Saturday, the 31st of May. The slides made by the members in connection with Mr. John Hargreaves' survey of the Hundred of Wirral were shown to the members of the Liverpool Association on the 14th inst.

BOLTON CAMERA CLUB.—This club held their first open meeting on the 11th inst. The room was quickly filled with invited visitors. Dr. Johnston, the President of the club, opened the proceedings with an address on the objects of the association, and expressed his pleasure at the rapid progress they had made. He strongly recommended the club to young amateurs as a good school for acquiring a knowledge of photography. An exhibition of prize slides, kindly lent to the meeting by the proprietors of *Photography*, was shown. During the evening, Mr. T. Parkinson, sen., presented each member of the society with an excellent permanent photograph of their President, and at the close of the gathering votes of thanks were passed to the various contributors for a very enjoyable evening. It may be added that Dr. Johnston forms the subject of illustration in this month's PHOTOGRAPHIC SOCIETIES' REPORTER, the photograph being the same as that presented to the members of the club.

BOLTON PHOT: SOC:—The monthly meeting of the Bolton Photographic Society was held at the Baths, Bridgeman Street, on Thursday night, April 3rd, Mr. Edmund Naish Ashworth in the chair. Mr. R. Harwood gave a most interesting lecture on his journey round the world. Many of the places so interestingly described by Mr. Harwood were, by the aid of the optical lantern, disclosed to view. The lantern was worked by Mr. James Leach. Mr. Walter Knowles exhibited a most ingenious apparatus, actuated by clockwork, for mechanically rocking the plate during development.

BRAMLEY AND DISTRICT PHOT: SOC:—A new photographic society has just been formed for a district which includes Bramley, Stanningley, Rodley, Pudsey, Farsley, Calverley, Kirkstall, and Armley, and has been named "The Bramley and District Photographic Society." The preliminary meeting was held on the 25th ult., when the officers were duly elected, Mr. Baxter, of Bramley, being the Vice-President, and Mr. F. Halliday, of Beechwood, Bramley, the Honorary Secretary. The Society has a membership of thirty to start with, and promises of joining from many photographers in this district, which is midway between Leeds and Bradford. There has been the need of such a society for some time past. The Secretary will be pleased to hear from any other persons desirous of joining, and also to receive any circulars or catalogues on photographic matters generally. The annual subscription is five shillings. The first meeting was held on the 1st inst., when Mr. H. Crossley, of Rodley, read a paper on "Development," in which he referred to the various developing agents now in the market, and the results which he had obtained with them, showing the members a dozen negatives and prints therefrom, and wound up his paper by giving a practical illustration of "Development with Hydroquinone." A short discussion followed, the meeting being a good one. The next monthly meeting will be on Tuesday, the 6th prox., when the members have to show the negatives and prints of "Childhood," which is the subject decided upon. The meetings are monthly (the first Tuesday in

every month), at 8 p.m., when any friends will be heartily welcomed.

BRECHIN PHOT: ASSO:—The monthly meeting of this Association was held in the Mechanics' Institute, Mr. Shaw Adamson, of Careston, in the chair. A very able and interesting paper on "Hand-Cameras and Apparatus" was read by Mr. Adamson, who treated the subject in a thoroughly scientific manner.

BRIXTON AND CLAPHAM CAMERA CLUB.—On Friday, 11th inst., there was a discussion on "Hand Cameras." Mr. Abraham sent for inspection the Ideal, and Mr. Fallowfield the Facile. Others were on view, including Hockins', and one constructed by a member of the club. At the next meeting on 25th inst., Mr. W. H. Powell will read a paper on "Development."

CARDIFF AM: PHOT: SOC:—On Wednesday the members of the above society spent a pleasant evening with their old friend, Mr. Josty. The lecturer discoursed on a variety of subjects of special interest to the amateur, giving instruction in the manipulation of "home photography," pointing out the best way of utilising the light, and a novel method of filtering same. He also touched upon the pros and cons of retouching, and gave some useful hints *re* the dark-room. Mr. S. W. Allen occupied the chair. This society's winter session terminates on the 23rd inst., when it is proposed to alter the date of meeting from each Wednesday to the first and third Friday of each month.

CROYDON CAMERA CLUB.—The ordinary meeting was held on Friday, April 11th, the President in the chair. The following announcements were made:—First excursion in the field with camera will start at 2 o'clock from headquarters, under direction of Mr. G. White, on Saturday, April 19th; gentlemen not able to meet the party so early can join at Beddington Church at 3 p.m. A cycle run will be held on Whit-Monday. Further particulars will be given later on. Mr. Smith gave a demonstration of the platinotype hot-bath process. Mr. Smith described Mr. Willis' discoveries, upon which the platinotype processes are based, and, passing from theory to practice, toned about forty prints taken from the members' negatives, the hot bath being used. Mr. Smith also showed a very compact and neat hand-camera, called the Key camera; the shutter opens and closes from centre. Speed is very high, but can be slowed down, or used for time exposure. Lens is capable of ready adjustment. The most noticeable feature is the contrivance by means of which the plates are placed in position. During the evening four new members were elected, and several others proposed. Next meeting, Wednesday, April 23rd, when a collection of Bromide Enlargements, kindly lent by Editor of the AMATEUR PHOTOGRAPHER, will be shown.

HACKNEY PHOT: SOC:—On Thursday, the 10th inst., the ordinary meeting of this society was held at Morley Hall, Mr. A. Dean in the chair. The Secretary drew the members' attention to the annual soirée, to be held on the 24th inst., and informed them that the society's orchestra would play on that occasion. The Secretary showed the Eclipse carrier, which Mr. Pringle had spoken of favourably. Mr. Gosling wanted to know whether there was any disadvantage in using a shutter on a detective camera when the shutter went from side to side. Mr. Spratt showed Crouch's hand-camera, and said that there was no vibration with it, and, if anything, it was an advantage. Mr. Carpenter then gave a very instructive paper and demonstration on "Lantern-Slide Making," using eikonogen as the developer, with which he had produced the slides that had taken a prize at the recent Palace Exhibition. The usual vote of thanks was very cordially responded to by the members, who fully appreciated a most interesting paper.

HOLBORN CAMERA CLUB.—The annual general meeting was held on Friday, April 11th, Mr. Dear in the chair. The Treasurer's report showed the club to be in possession of a nett balance of £11 19s. 7d., which, considering that the club has been run for the last fifteen months with twelve months' subscriptions, was considered eminently satisfactory. The Secretary's report showed that the club had nearly doubled itself in the last year, as it now consists of eighty members. Twenty members attended the Southern Counties Cyclists' Camp last August; there were thirty at the club supper, and one hundred members and friends at the annual exhibition and Ciderella dance. The club is also proud of the possession of ten lady members. The following officers were then elected: President, T. C. Hepworth; Vice-Presidents, Messrs. S. Chang, T. O. Dear, F. W. Edwards; Hon. Secretary, J. E. Smith (100, High

Holborn); Assistant Hon. Secretary, E. H. Bayston; Treasurer, Mr. Bell; Librarian, Mr. Gay; Committee, Messrs. R. Luxton, A. Plumbidge, H. Thomson, F. J. Cobb, F. Brocas, E. Benest, and H. Beckford.

IPSWICH PHOT. SOC.:—At the usual meeting of this Society, which was held by the kind permission of Mr. Myddelton-Gavey, in the Mission Room of Brooks Hall, on the 9th inst., there was a large attendance of members, and a still larger attendance of visitors, a most attractive programme being announced. It was a lantern evening, when views taken by members were exhibited by means of a lime-light lantern (on this occasion lent by Mr. Booth), but in addition to the usual collection of amateurs' efforts, a special collection of fine professional photographs had been obtained. Mr. A. S. Fisk, of Woodbridge, contributed a set of splendid views of the Forth Bridge, in all the stages of its marvellous construction, which was explained by a narrative of its history, read by Mr. Woolnough. Following these were some capital photographs by Mr. William Vick, illustrating the Norfolk Broads, which were taken during the Scientific Society's excursion last summer. The members' own efforts were next thrown upon the screen, the following contributing plates:—Messrs. R. Cash, B. Read, B. Corder, A. E. Denny, C. Joslin, J. C. Wiggan, E. R. Pringle, H. W. Younger, and J. E. Curtis. A series of instantaneous photographs, also sent by Mr. Fisk, illustrating the movements of animals, concluded a most enjoyable and artistic evening, a vote of thanks being accorded to Mr. Myddelton-Gavey for the use of the room.

KENDAL LIT. AND SCI. INST. (PHOT. SECTION).—The monthly meeting was held on the 9th inst., Mr. Isaac Braithwaite in the chair. The subject was "A Discussion on Hand Cameras." Various types were exhibited, including the Facile, Eclipse, etc. Mr. Frank Wilson read a paper, contributed to the *PHOTOGRAPHIC QUARTERLY*, on "Hand Camera Work, its Pleasures and Advantages," by Mr. Martin J. Harding. The summer field meetings were talked over, and several arranged for. A hope was expressed that a joint meeting with the Lancaster Photographic Society, as suggested by their Secretary, should take place.

PEOPLE'S PALACE PHOT. CLUB:—At an ordinary meeting of this club held on Friday, the 11th inst., Mr. Beckett, sen., in the chair, a good show of cameras was made, and many interesting tips were given by various members as to little improvements they had made to their cameras, etc. The Secretary explained the working of an Eastman's roller-slide. Mr. Patten brought up a very compact and simple hand-camera of his own construction, and Mr. Beckett showed a very fine 12 by 10 camera which was much admired. Prints were also shown of the views taken by the members who journeyed to Dorking, Surrey, on Good Friday, when a most enjoyable day was spent. This spot abounded with "bits," and altogether formed a very good start for the summer programme.

PHOT. SOC. OF IRELAND:—An ordinary meeting of this Society was held in the rooms, 15, Dawson Street, Dublin, on Friday, the 11th inst.; George Mansfield, Esq., J.P., President, in the chair. Prof. J. H. Stewart gave his lecture on "The Stop and the Optical Centre." Prof. Stewart illustrated his remarks by numerous diagrams drawn upon the blackboard, and in the course of his lecture said the optical centre of a lens had very important properties, and these properties, and how to find the position of the optical centre, should be understood by every photographer. In many cases the optical centre was outside the lens, and this was a very important item to remember. He said that all attempts to grind lenses so as to get rid of spherical aberration had been failures, but the use of a stop not only got rid of spherical aberration, but it also cured the curvature of the field of view. The stop also produced what was known as "depth of focus." Depth of focus was not so much a property of the lens as a property of the stop. By using a small stop depth of focus was obtained; get the nearest object in a picture well focussed, put in a small stop, and everything else must be in focus. A discussion ensued. Dr. J. Alfred Scott described what he termed an instantaneous work formula, and explained how it was possible for a photographer, by making a calculation taking the different factors governing instantaneous work into account, to ascertain beforehand whether it would be possible to get satisfactory results on any given day. The meeting then became conversational, praise of the Society's new dark-room being freely expressed.

STAFFORDSHIRE POTTERIES AM. PHOT. SOC.:—A meeting was held at the Coffee House, Burslem, on Tuesday, April 8th, with

the object of forming a Photographic Society for the district. A number of amateurs were present, and it was decided to form a Society under the name of "The Staffordshire Potteries Amateur Photographic Society." Mr. R. C. Burgess was appointed President, and Messrs. F. C. Powell and J. F. Hewitt, Burslem, Hon. Secretaries. The various details relative to the Society were discussed, and the meeting was adjourned for a week to elect a Committee and enrol members.

TAUNTON AND WEST SOMERSET PHOT. SOC.:—The first general meeting was held on Thursday, April 10th, Lieut.-Col. Ewing in the chair. The consideration and adoption of rules and the election of officers were the chief business. Col. Ewing was unanimously elected President, with the following Committee: Messrs. J. T. Taunton, F. W. Gotch, and C. H. Jeboult. T. Goldsworthy-Crump, Mulberry House, Taunton, Hon. Sec. and Treasurer. A Sub-Committee was also elected to arrange for securing a room, and fitting same as a dark-room. The Society has started with thirty members, and the subscription for the first year has been fixed at 5s., with probably an extra charge for use of dark-room.

WEST LONDON PHOT. SOC.:—A technical meeting of this society was held at the Addison Hall, W., on the 11th inst. The President, Mr. Charles Bilton, occupied the chair for the first time since his recovery from a serious illness. There was a good attendance of members. Mr. Selby showed Rouch's detective, which led to a discussion on hand-cameras in general. One member had found the lever would not always raise the plate; this defect, however, he had managed to set right. Other speakers testified to the capabilities of the camera. Mr. Winter kindly offered to allow members to test his Giah camera. He considered that all instruments should be practically tested before being issued to the public. A discussion also arose as to the comparative effect of printing in platinum in the sun and in the shade, in which several members took part. Mr. Whiting showed a home-made viewfinder, and advocated the more general use of that instrument. Dr. F. H. Low passed round blue prints, some of which had been toned by a process described in a recent almanac, and the Secretary showed aristotype prints from negatives taken by flashlight of wine vaults in the Minorities. Mr. Rickford exhibited negatives, some of which he had intensified, and showed a number of prints from the same by a variety of processes, showing the comparative results which might be obtained. The President announced that the Secretary would read a paper upon "Lenses" on the 25th April, and that the annual smoking concert would be held at the Richmond Hotel on May 9th.

WEST SURREY AM. PHOT. SOC.:—The Society met on the 9th inst., at the Crichton Hall, Clapham Junction, Mr. Winsford in the chair. Mr. James gave a lecture on "Enlarging," to which, however, he was not at all partial. Messrs. Davison and Miall started the discussion. Mr. Davison had on view some platino-type prints by both the hot and cold processes, on various kinds of paper and also fabrics. Several books were handed in for the library in course of formation.

A PHOTOGRAPH IN NATURAL COLOURS.—A correspondent of the *Standard*, writing with reference to the reported discovery of a method of photography in natural colours, says, "A really good daguerreotype always seemed to bear a suspicion of colour, and once, by purely accidental circumstances, I obtained veritable colours. I remember it was an autumn day, one-half the overhead sky was bright, but angry clouds, from which came frequent electric discharges, obscured the rest. My sitter was gaily attired in a black silk gown checked with green, red, and a narrow yellow stripe. All being ready, the then rather impertinent warning was given, 'Now, madam, sit still, if you please and don't wink.' The roar of the rain was at hand, the cap was removed, when the lightning and thunder crash came simultaneously. My subject jumped up with a squeal, and ran away to the house. I had little thought of anything but a failure, the exposure having been interrupted. My astonishment was great on 'bringing out' the picture, to find I had a beautifully delicate, naturally-coloured daguerreotype. I kept my treasure, and many saw it; but after some months the colours faded away. On mentioning these circumstances to a clergyman, he told me that, while receiving lessons in photography at the Polytechnic Institution, London, during a violent thunderstorm, a coloured image was imprinted, not upon the plate, but upon the lens of the instrument. These, and other facts with which I am acquainted, seemed to point to electricity as a means of producing naturally-coloured pictures."

To Correspondents.

THE insertion of **QUERIES** and **ANSWERS** is attended with much labour, and it is requested that the questions asked and the answers given shall be short and to the point. No charge is made.

All communications for the columns are to be addressed to The Editor, "Amateur Photographer," 1, Creed Lane, Ludgate Hill, London, E.C.

RULES

1. Write clearly and distinctly on one side of the paper only.
2. Write each Query or answer on a separate sheet of paper.
3. Write the name and address legibly on the back of each communication, and sign all Queries and Answers with name or *nom de plume*.
4. All matters for these columns **MUST** be received by **TUESDAY MORNING'S POST**.
5. The Editors do not undertake to answer questions by post.
6. In answering Queries correspondents are requested to mention, in every instance, the number and full title of the query referred to.

QUERIES.

3696. **Hydroquinone (Thomas's).**—I use as a developer Thomas's formula (hydroquinone), and have made the mixture up by apothecaries' weight (12 ozs. to the lb.). Nearly all my plates, after developing right, and being fixed in the hypo solution, exhibit signs of frilling immediately; they are placed in the water for two or three hours, to thoroughly eradicate the hypo. The plates used are Fry's. What should I do to prevent the frilling? Any information will oblige. —BEGINNER.

3697. **Lens.**—Having a Taylor's single R.V.P. lens, eq. foc. 18-25 inches, I am very anxious to use same with my whole-plate camera, but find the latter too short focus—viz., 20 ins. extension. Can any correspondent give me a handy method whereby I might do this without disfiguring my "set" by anything unsightly in front of camera. —SNIP.

3698. **Loan of Negatives.**—Will some brother amateur please lend me a few quarter-plate negatives of interior and exterior views of cathedrals for lantern-slides. I will pay carriage both ways. —J. A. WATSON (address with Editor).

3699. **Glass Positives.**—Is there any way of taking positives on the ordinary dry plates instead of by the wet-plate process? —GEO. J. GREEN.

3700. **Portraiture.**—Will any reader kindly inform me how to obtain the beautiful softness and definition which characterise a good portrait study, my portraits are always so terribly hard, and black and white, with no soft shading on the face. I have spoiled a good many plates, and should be glad of a little advice before trying again. I use a half-plate R.R. Wray lens with Ilford plates, and Lockyer's hydroquinone developer. I expose for two or three seconds at $f/8$. I have to develop well, or they always fade away in the hypo bath. —A BEGINNER (address with Editor).

3701. **J. T. Mounts.**—Required address of London dealer who stocks these—for negatives $7\frac{1}{4}$ by 5? Have tried several dealers without success. —IRIS BACH.

3702. **Public Buildings in London.**—To whom must application for permission to photograph these be made? —IRIS BACH.

3703. **South Kensington and British Museums.**—Is permission required to photograph statuary in either of the places? If so, to whom should I apply? —IRIS BACH.

3704. **Detective Camera.**—I would be glad if any of your readers could advise me as to the best form, to be used as a detective, or on a portable stand for time exposures. Size of plate, $4\frac{1}{2}$ ins. by $3\frac{1}{4}$ ins. for making lantern-slides. —R. J.

3705. **Ireland.**—Can any reader give me any information as to places worth taking on the following route: Belfast, Larne, Cushendall, Londonderry, Letterkenny, Rathmullen? Also can Ilford half-plates be got at any place here except Belfast? Any kind of particulars of this district will be gladly received by —MEDICI.

3706. **Loan of Negatives.**—Will any brother amateur kindly grant me the loan of a few quarter-plate negatives, views, for the purpose of lantern-slide making? Every care will be taken, and carriage paid. —R. BDDOWES (address with Editor).

3707. **Transparency.**—I want to reproduce a negative from a transparency. Can I do it by gas-light, with what length exposure, and distance from flame? Have failed in all attempts yet. Will some one help me? —CYMRO.]

3708. **Hand-Camera.**—I wish to use my quarter-plate Lancaster's Instantograph as a hand-camera, with a Ross's half-plate rapid symmetrical lens, $7\frac{1}{2}$ in. focus. I should be glad of any particulars how to arrange the plates, and how many could I carry without changing? I have a Thornton-Pickard time and instantaneous shutter to fit lens; could that be utilised? —J. H. J.

3709. **Musty Album.**—I have a large portrait album which has accidentally been stored away in a damp place. I have dried the leaves one by one, put album under pressure, and got all straight again, but cannot get rid of the musty smell. Being a large and well-bound portrait album, I do not care to put aside. Will some reader oblige? —VINCENT.

3710. **Self-Toned Paper.**—Can as good results be got with this as ordinary albumenised paper, and are the prints permanent? Whose make is the best? Any hints will oblige. —VINCENT.

3711. **Copying.**—I am anxious to copy a framed platinum print of a group, and should be glad of advice as to length of exposure and stop to use? I have a Ross's R.S. lens, 8 by 5. —F. A. D.

3712. **Yellow Image.**—What developer will give a yellow image on an ordinary landscape plate? —A. C. L.

3713. **Borax Toning.**—Must the borax toning solution be mixed long before using? —A. C. L.

3714. **Purple Black Tones.**—What paper is recommended for purple-black tones? Where could I obtain it? —A. C. L.

3715. **Silver Solutions.**—I have several bottles containing silver negative and positive baths that have not been used since the wet-plate days. I want to make a solution for sensitising albumenised paper. Will some one give directions and oblige —W. H. H.

3716. **Developer for Ilford Plates.**—Will any amateur please tell me what developer to use for the Ilford special rapid plates (red label). I have used several, but can get no density with them. Also please say what other cheap make of plates is good for drop-shutter work, and what developers? My lens is a Wray's, working at $f/8$; is it possible to do instantaneous work in dull weather? —J. O. S. (address with Editor).

3717. **Polyglot Labels.**—Will someone please give French, German, and Italian for "Photographic plates, to be opened only in dark-room"? —LUCIFER.

3718. **Detective Camera.**—Will anyone kindly tell me whether the Optimus Magazine camera is good and easy to manage? Do the plates or sheaths ever stick? Is the box covered with leather; if not, of what wood is it made? —CORNUBIENSIS.

3719. **Rapid Lens.**—I want a half-plate lens for the most rapid work, to secure models for painting from. Which is best, a Rapid Rectilinear or a Eury-scope? It is to secure animals, children, etc., almost as large as the plate will hold. —ARTIST.

3720. **Intensification.**—Will any reader oblige by giving an explanation how to avoid the appearance of pin-holes in negatives intensified in the ordinary way with bichloride of mercury and ammonia? I soak the negative first, wash well between the solutions; and I don't want to use sulphite of soda, or anything but mercury and ammonia. —GREVE DE LUZ.

QUERIES UNANSWERED.

Mar. 7th.—Nos. 3528, 3530, 3531, 3551, 3554, 3556, 14th.—No. 3566.

21st.—Nos. 3585, 3587, 3593, 3595, 3596, 3601, 3610, 3612, 3613, 3614.

28th.—Nos. 3620, 3628, 3629, 3630, 3633, 3634, 3636, 3637, 3638, 3640, 3641, 3643, 3650, 3652, 3653.

April 4th.—Nos. 3661, 3664, 3669, 3672, 3674, 3677, 11th.—No. 3694.

ANSWERS.

3542. **Purple-Blue Toning.**—You must get from some photographer some fresh home-made sensitised paper, a strong gold bath, and use negatives with plenty of vigour in them, so that the printing can be carried to the bronze stage. —F. DAVIS.

3561. **Negative Varnish.**—If you get some good absolute alcohol it will dissolve any shellac. —F. DAVIS.

3619. **Exeter.**—For permission to take interiors of the Cathedral apply to the Dean. I do not think you will be able to get into the Bishop's garden, but you might inquire of the vergier (an exceedingly courteous and intelligent official, by the way), who might admit you if the Bishop is not in residence. —W. H. H.

3662. **Death Pot.**—Large moths or butterflies are easily killed by pinching the thorax between finger and thumb, or place some cotton wool dipped in chloroform in the bottom of a pickle bottle, and cork down tightly. A stoppered tube should be run through the bung to admit the insect into the death pot. For beetles, a pulp made by pounding young shoots and leaves of laurel, may be substituted for the chloroform. —IRIS BACH.

3665. **Willesden Paper.**—Write to the Willesden Paper Company, Willesden Junction, London, and they will supply you, as they did me, in small quantities. —F. DAVIS.

3670. **Finder.**—"Merci" can make an efficient finder much more simply than as described by "E. W. B.," as silvering a watch glass and cutting it square are not in everyone's power. Obtain a wooden box $1\frac{1}{2}$ inch cube, or thereabout. Cut a circular hole in one end, in which fix a concave lens. At an angle of 45 degs. place a bit of looking-glass, and cut an oblong hole in top. Place on top of camera, and look down. I have had next to no experience of hand-camera work, but find I can shoot very straight with this. —GREENWOOD PIM.

3671. **Exposure for Bromide Paper.**—Eight seconds would do with magnesium ribbon, but I find that as many minutes are needed for oil or gas light. —F. DAVIS.

3673. **Hand-Camera.**—I never use larger stop than $f/10$ for instantaneous work, and develop with Paget's pyro and ammonia developer. —F. DAVIS.

3676. **Argentine Paper.**—There is a formula for this in **AMATEUR PHOTOGRAPHER** of March 14th, 1890, p. 179. —F. DAVIS.

3679. **Hydroquinone, Sediment from.**—The white floury sediment in bottle No. 2 is caused by the water. I have never found it to injuriously affect the quality of developer. To obviate it, use distilled water. —J. A. SINCLAIR.

3680. **Ilford Plates and Hydroquinone.**—The hydroquinone in the solution could not have all been dissolved. —SUNLIGHT.

3681. **Clouds on Bromide Paper.**—Quite easy. Cut out a mask to sky line of picture. Make some marks on paper so that you will be able to superimpose the mask along sky line exactly. Then give the proper exposure for foreground, etc. Replace negative by mask, and cover same with a cloud negative; give one quarter of first exposure, and all will develop together. —F. DAVIS.

3682. **Lynton and Lymouth.**—I have been to both these places, and can testify to the merits of either, and if "Holiday" will communicate through Editor, I shall be happy to give him full particulars that may help to comfort and prevent waste of time. —A. C. T.

3683. **Lens.**—Certainly. It is a very fair all-round lens, and good for the money. —W. A. J. CROKE.

3684. **Lancaster's Rubralux Lamp.**—Either get a new glass made for the lamp a shade lighter ruby, or use a stronger light in the lamp. —W. A. J. CROKE.

3684. **Lancaster's Rubralux Lamp.**—I have found the orange glass fitted to this lamp give an excellent light. If care is used it will not fog rapid plates. —LEX.

3685. **Hydroquinone.**—Thomas' hydroquinone developer gives very good results with their plates, and it is also a good developer for Eastman's bromide paper. —J. MADLEY-WOOD.

3685. **Hydroquinone.**—Have not tried Ilford; but Thomas' is excellent. The quantity of bromide may be increased with advantage. —IRIS BACH.

3685. **Hydroquinone.**—If for Ilford lantern plates, Ilford formula should be used, or a formula containing potassium bromide instead of ammonium bromide. Thomas' formula full strength gives splendid results on Mawson lantern plates. For negatives, 1 part water to 1 part developer. —J. A. SINCLAIR.

3686. **Enlarging.**—Any of the gelatino-bromide papers (I use Morgan and Kidd's) will do, and the formula is sent with them. —F. DAVIS.

3686. **Enlarging.**—I always use Ilford bromide paper. The formula for developing is enclosed with each packet of paper. —SUNLIGHT.

3686. **Enlarging.**—Morgan and Kidd's bromide paper, developed with Thomas' hydroquinone, will give M'Ginty satisfaction. —J. A. SINCLAIR.

3687. **Isoschromatic Plates.**—The screen is of yellow glass, and fits over or into the front of the lens. Its purpose is to render tints in true gradation, by reducing the actinic power of the blue and violet rays of light; obviously yellow rays are not affected by passing through a yellow medium. On an ordinary plate, blue is rendered by white, and yellow by black. Try a bunch of flowers on an ordinary and an isoschromatic plate, and you will easily see difference. Give not less than ten minutes' exposure. Any well-restrained developer will do. —IRIS BACH.

3687. **Isoschromatic Plates.**—To make yellow screen, procure some extra thin lantern cover glasses, and get glass-cutter to cut some small discs just large enough to fit in hood of lens. Cover these with a film of collodion stained to the depth required with a pennyworth of yellow dye. One of these discs can be readily placed in the hood of lens after focussing. Great care must be taken to shade the plates during development, owing to their sensitiveness to ruby light. —J. A. SINCLAIR.

3683. **Blue Prints.**—Try ferro-prussiate paper, as sold by any dealer. Stanley keeps it. —LEX.

3683. **Blue Prints.**—I should think you mean ferro-prussiate paper. It can be obtained at any photographic dealer's. After printing, it only requires washing in two or three waters. —SUNLIGHT.

3689. **Toning.**—The chalky substance is evidently a precipitate from the hard water. I think "Print Spoiler" will find that it is easily removed with a sponge, and will in no way affect his prints. —J. A. SINCLAIR.

3690. **Gold Solution.**—Break a 15 gr. tube of chloride of gold in a 2 oz. bottle, and add 15 drms.

distilled water; each drachm of this solution will contain 1 gr. chloride gold, so any formula may be made up.—LEX.

3890. **Gold Solution.**—From 5 to 8 ozs., according to tone required.—IRIS BACH.

3890. **Gold Solution.**—Mix your 15 gr. tube of gold with 15 drms. of water. You can then easily take any quantity required for your toning bath.—J. A. SINCLAIR.

3891. **Cloud Negatives.**—Go to the seaside, lake-side, or other position whence you have an extended horizon. Use small stop, slow plates, instantaneous exposure, and develop slowly.—F. DAVIS.

3892. **Want of Density in Negatives** is generally owing to over-exposure, or want of patience. I always use Ilford ordinary plates and pyro developer, and I never have any trouble. I cannot assign any other reason but that you do not give the plates time to gain density.—SUNLIGHT.

3892. **Want of Density in Negatives.**—I invariably use the Ilford developer, and never find any difficulty in getting density with Mawson, Ilford, or Thomas' plates. Should suggest "Old Reader's" trouble is caused by over-exposure. Density may be largely increased by flooding the plate with a fresh lot of developer when all detail is out.—J. A. SINCLAIR.

3893. **Blue-Black Tones.**—Try the Mawson lantern plate, a splendid plate in every respect, giving fine black tones with hydroquinone, pyro-potash, or pyro-ammonia. Personally, I prefer them to any other.—W. H. H.

3893. **Blue-Black Tones.**—Mawson lantern plates with iron developer will give required tone. For a beautiful purple black, use same plate with hydroquinone.—J. A. SINCLAIR.

3893. **Blue-Black Tones.**—With the Pall Mall or Kingston, using Thomas' developer, I have never been able to get anything but cold black tones.—IRIS BACH.

3895. **Plates.**—Wratten and Wainwright's, or Edwards' ordinary. For rapid plates, Thomas' T.C.E.R., or either of the above makers' instantaneous.—IRIS BACH.

3895. **Plates.**—If you find Thomas' landscape plates too slow, try their thickly coated extra-rapid. They are quite quick enough for all ordinary shutter work. I do not think you can get any plates to give such good results if you use their hydroquinone developer. One of the best plates for very quick work is Paget's XXXXX. No plate, if properly exposed, should give any trouble in developing.—J. MEDLEY WOOD.

3895. **Plates.**—Edwards's is a magnificent plate. Landscape, 18, instantaneous, 22, Warnerke.—LEX.

EDITORIAL.

NOTE.—Anyone requiring an opinion upon photographic apparatus, plates, etc., must give a number or initial for identification, as in no case will makers' names be inserted in this column.

SPECIAL NOTICE.—We are very pleased to find that replies in this column are so much appreciated, but we should be very grateful if those requiring advice would send their letters to us BEFORE TUESDAY MORNING'S post if possible. The time occupied in replying in this column is very considerable, and owing to the often late receipt of letters, many matters have to be left over each week. This we much regret.—ED. AM. PHOT.

EAGLESBUSH.—The apparatus, complete with the maker's lens, is very reliable at the price, but you will have a much better lens if you buy No. 2.

GOONLAZE, CUCKOO.—We should strongly advise C; it is in every sense a first-class English-made lens. The others are French, and the same care naturally, owing to the price, is not taken in correcting them. We prefer plates G to any of the others.

ALFRED A. MURRAY.—We publish your letter and say a few words in another column.

BAKER HUDSON.—Several books are marked on list sent you.

LAT THIRCKLE.—You do not conform to our rules and give name and address, hence we cannot answer your questions.

CYCLIST.—If required for cycling, Z or X; if for ordinary work, W is far away the best. They are all sent out with finders.

JOHN M. KENNEDY.—A very excellent series of articles by D. Harbord, on "Self-Help in Photography," were commenced in the AMATEUR PHOTOGRAPHER January 1st, 1888, an article being published every other week or thereabouts, up to and including the issue of July 9th, 1888.

TIT WILLOW.—Your letter has been mislaid; we will make a search for it, and write you. What was the subject?

SHARP AND HITCHMOUGH.—Sorry you cannot send your detective cameras to us for inspection. Perhaps you will do so later on, when the stereoscopic detective camera is on the market. We never recommend apparatus to our subscribers unless we have personally had an opportunity of inspecting it, all apparatus sent us is returned within fourteen days, and if it has any novel features, a notice is given in the columns of the AMATEUR PHOTOGRAPHER.

H. C. LEAKE.—If the album is of first class quality, there should be no reason why you should not mount on both sides.

W. I. C.—Your reply is most unwarranted. J. WILLIAMS—Mr. A. J. Melhuish's address is 58, Piccadilly, S.W.

JAMES C. SINCLAIR.—Very many thanks for the trouble you have taken.

P. J. F.—We report upon apparatus at a fixed rate of commission of 2½ per cent. If the maker chooses to send the camera to us we will send you a report, and you can buy upon it or not as you like, but will have to pay our charge. The cost being £5 10s., our charge will be 2s. 9d.

J. O. B.—A very nice tone, but what a pity you lost the crown of the tree in centre of picture, and that the branch protrudes on the right-hand corner of plate. Otherwise the composition is certainly good. We shall be pleased to keep the print. The colour obtained on Aristotype paper, toned with chloro-platinite, and squeegeed on ground-glass, is soft and pleasing.

CANADA DOCK.—A: We should not consider that No. 1 lens in any way compares with either of the others you name, and place them in the following order, 2, 4, and 3. We should advise you to write to the firm No. 2, and ask them the question you ask us. We always recommend an R.R. for all-round work. You will find the No. 2 firm most straightforward people.

TREBLE X.—Under the circumstances, we can see no reason why you should not copy the photograph. Of course you will not sell copies.

A. A. K.—The North Middlesex Photographic Club. Hon. Sec., Mr. Geo. R. Martin, Harringay Park Granary, Green Lanes, Finsbury Park, N. The meetings are held in the Hornsey Road, N., and would be within walking distance for you.

THOMAS AND CO.—We are very glad to hear that the firm have completed your order, and that "the goods are most satisfactory and cheap."

H. C. A.—We have complied with your wishes, and will advise you later on.

H. K.—Please send on negative and transparencies, and call upon us on Monday next.

W. H. FISHER.—We should advise either B or C; they are both most serviceable, and the lens supplied with them will answer your purpose "for all-round work."

E. J. JACKSON.—In a week or so we shall decide what pictures we may need for reproduction.

CHAS. R. CHAPMAN.—Dark-room noted, also your intention to send us "Holiday Resort" article.

T. B.—Your photographs will be criticised in due course if left with us.

C. A. SAMUELS (Bengal).—Your prints are very fair. We have no competition at present in which they are available. No. 1 is rather deeply printed, and lacks definition. No. 2 makes a characteristic picture. No. 3 would have been better with less foreground. We shall be pleased to see more of your work.

W. R.—We should like you to have camera d or e, with lens a or c, but the amount you name will not purchase them. Why not advertise in Sale and Exchange column? You might get a very good 7 by 5 kit for the money. Write us again if we can help you.

ACTOR.—Your prints are in our hands, and will be dealt with shortly, or can be returned if you wish. The Special Number will be issued in due course. We cannot advise you to purchase the camera you name, not having had any opportunity of inspecting it.

GEM.—The camera A is a first-class instrument, and you will be able to do first-class work with it. We should certainly advise C.

H. G. W.—The shutter is a very good one, and is fairly free from vibration.

A. W. P.—No. 1 is considerably over-exposed, and No. 2 considerably under-exposed. This photograph does not suffer from halation, and had the exposure been prolonged, you would have secured a very fair picture. You will remember that the day was quite dull, and you were working with a very small stop. Try again, study your lighting, and you will yet show us a decent print.

J. W. B.—Please send us your address.

DISTRICT EDITORS.—Applications re Bradford, Reading, north of London, Dublin, Dundee, Wolverhampton, Birmingham, Edinburgh, Stamford, Brighton, Newcastle (Staffs), Croydon, and Belfast are receiving attention.

H. A. L. B.—Your views are before us. "Barry Dock" is very good indeed, both as a photograph and a composition. We are also much pleased with "Farmon Castle," the left-hand of your foreground is slightly out of focus. "Farmon Wood," in this picture the foreground might, with advantage, be reduced. The photographs show very careful working and considerable judgment in selection of point of view. Are they to be returned?

A. H. BLANKLEY.—Rules to hand, for which many thanks.

E. G.—(1) The figure may, and, of course, would be, a portrait, but would not come under the class of "Portraiture." (2) Any figure meets the condition.

F. AUYON.—A very capital letter. Much obliged to you.

G. H. RANSOM.—Your letter is simply an advertisement. Let us see your camera, and we will with pleasure write our correspondent, and also give you a notice in the AMATEUR PHOTOGRAPHER.

CAPT. L. LAMB.—Have inserted a query. A. R.—We never name firms; write to any respectable dealer, they will be able to supply you with a suitable changing-bag.

WALTER F. DAVIES.—More care in developing in order to secure a good printing negative, more care in printing and toning. Your toning was in many cases very weak, use more gold.

P. K.—We hope shortly to be able to fix a date. Mr. C. H. Bothamley's articles will be published in book-form when completed.

J. W. SPURGEON.—Your explanations are duly noted.

MALICE (Nice).—You will see your print was in time, and that in another place we comment upon it. It is not compulsory that you should, in sending to the "Ladies' Competition," give particulars as to stop, exposure, etc. You should work out the focal length, and so correctly describe the value of your stops, for rule see "Dictionary of Photography," page 47.

A. E. P.—Quite correct, it would have been near enough to have reduced to one-sixteenths of an inch, but yours are more accurate.

C. H. LEWIS.—We have given instructions to refuse all advertisements, those that appeared were prepaid. Glad you got the best part of your money. Have put your name on the list, you will hear from us. Will write you later on. Mr. T. C. Hepworth is not now attached to the editorial staff.

S. F. CLARKE.—In a few days will answer your letter fully, hope you received photographs.

W. B. PEARCE.—Very glad that the "Competition prints" gave such satisfaction.

H. HOLZ.—All right; shortly particulars will be announced as to our intentions regarding the "Prize Tour Competition" photographs.

G. A.—"J. W. B.'s" address has been mislaid, but as soon as we get it, your letter shall be sent on.

W. A. BRICK.—Sorry to hear that you have not been able to put your camera on the market. Your circular is far too lengthy for us to publish.

H. MACLEAN.—We have put you on the list, and will communicate with you later on.

FRED. TURNER.—Try the following, as used by Mr. A. C. Townshend:—

No. 1.	
Soda carbonate	60 grs.
Water	1 oz.
No. 2.	
Hydroquinone	12 grs.
Soda sulphite	60 "
Water	1 oz.

For use, mix: No. 1, 1 oz.; No. 2, 2 ozs.; water, 1 oz. An increase of hydroquinone gives strength, and dilution with water will produce detail. Or here is another:—

I.	
Hydroquinone	160 grs.
Sodium sulphite	2 ozs.
Citric acid	60 grs.
Potassium bromide	80 "
Water	to 20 ozs.
II.	
Sodium hydrate	160 grs.
Water	to 20 ozs.

To develop, take equal parts of each solution.

Monthly Competition.

No. 11.

GENRE OR FIGURE STUDY.

Title of Print.	Name of Sender.
Lunch Time	H. C. Lancaster
A Regimental Favourite	J. O. Bury
A Fairy Dress Costume	A. J. Ashman
H. A. T.	J. H. Thornton
Making a Net	F. G. Smart
A Pleasant Duty	F. W. Averil
The Amateur Photographer	C. C. Mackley
Italian Study, Lago di Como	A. Stieglitz
She Begs for Time to Reflect	Miss A. Henderson
Afternoon Tea	Miss F. N. Pownall
A Cottage Porch	E. P. Hale
Two Welsh Gossips	Miss Hands
St. Joseph a Good Shepherd	O. F. Steggall
An Amateur Haymaker	E. H. Redwood
An Old Photographer at Work	T. B. Wain
The Arrest	A. L. Spiller
Natives of the Little Orme at the Dripping Well	F. H. Burr
Home	J. L. Snelgrove
Waiting by the Stile	Mrs. Margaret Cole
'Tis Only a Slight Out, my Dear	J. Harriman
Cabrolle Valley, Mentone	Rev. G. E. Hermon
Playmates	Miss Hodgson
A Professor	Mrs. Mounsey
Finishing Touches	H. T. Morgan
Old Peggy	J. J. Thornton
Thinking	M. Benyon
Getting to the Bottom of It	H. G. Brierley
Rest after Labour	E. Edward
*The Dinner Hour	
Forty Winks	G. T. Zimmer
Happy Moments	T. L. Buck

*This competitor's entry form has been mislaid.

Sale and Exchange.

RULES.—Fourpence for twelve words or less, and a penny for every additional three words, must be enclosed with each advertisement, together with the name and address of the sender, which must be paid for, and sent to Hazell, Watson, and Viney, 1d., 1, Creed Lane, Ludgate Hill. Halfpenny stamps preferred. A single figure, or group of figures undivided by letter, space, stop, or words, counts as one word; compound words count as two words.

REPORTING UPON APPARATUS.—The Editor of the AMATEUR PHOTOGRAPHER will be pleased to report, to any intending purchaser, upon apparatus etc., offered for sale in the "Sale and Exchange" column, provided such apparatus, etc., is forwarded by the seller to him to the offices of the AMATEUR PHOTOGRAPHER, 1, CREED LANE, LUDGATE HILL, LONDON, E.C., free of charge. The intending buyer to pay a fee equivalent to a commission of 2½ per cent. upon the sale price of the apparatus, etc. The publishers will undertake the packing and sending of all goods at the cost of the seller. As far as possible, the Editor will undertake to send a report within TWO DAYS of receipt of goods.

DEPOSITS.

Deposits for goods to be forwarded on approval may be made with our Publishers, who will hold the amounts deposited until they are satisfied that the transaction has been executed to the satisfaction of both parties. Cheques and Post Office Orders should be made payable to Hazell, Watson, and Viney, Ltd. A nominal charge of 1s. is made whether a sale is effected or not.

N.B.—Trade Advertisements cannot, under any circumstances, be inserted in this column. Such advertisements can be inserted elsewhere at the Trade Scale, which may be obtained on application to Parry and Crawford, 1, Creed Lane, Ludgate Hill, London, E.C.

Apparatus.—Optimus Magazine Camera, Swift's rapid Paragon lens, Iris diaphragm, f/5.6, cost complete £10, quite new, price £8 10s.; Facile detective camera, nearly new, £2 15s. 6d.; 3B Suter lens, 9 in. focus, £2 15s.; quarter-plate R.R. lens, new, price 16s. complete. — 6, Montford Place, Kennington, S.E.

Three half-plate Tylar's slides, nearly new, 9s. 6d.; canvas bag and straps, ditto, 5s. 6d.; best tripod, in case, 14s.; Ross' carte lens, 35s.; Lerebours' half-plate landscape, 12s.; exchange whole-plate apparatus. — Chalton, Boys' Refuge, Manchester.

Half-plate camera, landscape, leather bellows, rising front, swing-back, two dark-backs (solid), and quarter-plate carrier, rectilinear lens, W.A. landscape lens Special, and cabinet portrait lens, tripod; the lot for 95s., or any above can be had separately. — E. C. Brett, 14, Regina Road, N.

Bicycle.—Exchange 52 in. No. 1 Rudge bicycle, ball bearings throughout, with K.K. lamp, for photographic outfit, including half-plate double extension conical leather bellows camera, with R.R. lens. — Apply, A. C. Belby, Roundhay Park, Roundhay, Leeds.

Cameras.—Camera, mahogany 12 by 10, field or studio, splendid order, used one season, one slide, with carriers, 110s.; or exchange for good Optimus 9 by 7 Euryscope lens. — Snip, Bellshill, N.B.

Camera, Lancaster's 1888 Instantograph whole-plate, with lens; death of owner cause of selling; bargain. — Mrs. Rothwell, 3, Edward Henry Street, Rhyl.

Half-plate camera (by Fallowfield), complete with bellows body, rack and pinion adjustment, rising and cross fronts, double swing-back, three double dark-slides, and good folding oak tripod, a genuine bargain; £2 15s. — A. C. Pemberton, Elm Villa, Neasden, N.W.

Cameras, etc.—Half-plate Underwood's 1889 Instanto, one wooden and three Tylar's metal dark-slides, one printing frame, scarcely used, good as new; for £2 5s. — E. F., 15, Chatsworth Square, Carlisle.

Superior long-extension 5 by 4 camera, three slides, and case; a bargain, 52s. 6d. — Bell, 4, Milton Terrace, Belfast.

8½ by 6½ bellows camera, reversing frame, swing-back, three slides, cost £9 10s., £5; 9 by 7 Optimus Euryscope, £4 10s.; 7½ by 5 bellows camera, reversing frame, swing-back, three slides, £5; 7½ by 5 Hare's changing box, £2 10s. — E. Brightman, Lyndale, Bedland Road, Bristol.

Hare's 10 by 8 long-extending best camera, nearly new, three slides, every movement; sell 8 guineas. — 1, Dunkeld Villas, Plymouth.

5 by 4 camera (by Louis Gadolph, London), 12 in. focus, taper bellows, rising front, reversing back, rack adjustment, three double backs, Aptus finder, and Optimus best waterproof case, velvet-lined; £3 5s.; approval; deposit. — H. S., 75, Loampit Vale, Lewisham, S.E.

Camera Case.—Camera case, Lancaster's waterproof, stiff leather bound, new, 11 by 8 by 11; 8s. 6d.; approval 6 stamps. — 6, Albion Cottages, Avenue Road, Stamford Hill, N.

Enlarging Apparatus.—Marion's enlarging apparatus, 7 in. condensers, new, cost £7, further particulars if wanted; would exchange for f/11 rapid rectilinear lens by good maker. — H. Wigan, East Malling Vicarage, near Maidstone.

Hand-Cameras.—Hand-camera, as described in 1890 "Year Book" by Hethorn Lewis, for sale, quite new, six double backs, focussing arrangement, can be used on a stand or in the hand, fitted with Taylor's detective lens, 5 in. focus; price £7 10s., or £4 without lens; cost £9 10s. — 54, Chestergate, Stockport.

No. 2 Kodak (£7), just new, with extra roll of film (10s. 6d.); £8 10s. — B. Boothroyd, Southport.

Kodak detective camera, equal new; cost 105s.; price 70s. — Bygrave, 15, Canterbury Road, Brixton, S.W.

Rouch's Eureka, very little used; price £5; cost £6 12s. 6d.; deposit system. — Hatfield, St. Philip's Vicarage, Southport.

Lenses.—Lens, Lancaster's Instantograph half-plate, with instantaneous shutter; cost 37s. 6d.; what offers? — H. G., 15, Grosvenor Road, Rathmines, Dublin.

Optimus Euryscope, 7 by 5, new, price £3 10s.; Newman's shutter to ditto, new, 27s. 6d. — Orme, Studio, St. Petersburg Place, Bayswater.

Single lens, new, with stops, covers 5 by 4 plate; price 7s. — H. K., 171, Caledonian Road, London.

Optimus 7 by 5 wide-angle portable symmetrical lens, new; cost 52s. 6d.; take 39s. 6d. — Blake, 99, Edinburgh Road, Liverpool.

Optimus rapid rectilinear 12 by 10 lens, cost £7, nearly new; will take 50s. — Address, Piggins, 95, Old Kent Road.

Dallmeyer's 7 by 5 wide-angle landscape lens, equal new; cost 75s.; sell 47s. 6d. — Day, AMATEUR PHOTOGRAPHER Office.

Lens, Shutter, etc.—Quarter lens, Instantograph, and shutter, elliptical shutter, with release, fit same lens, "British Journal," December 6th to date, vol. 1. "Photography," missing 1, 5, 6; exchange for half-plate camera and slides. — J. T., 4, Heatherside Road, Ewell, Surrey.

Lens and "Amateur Photographer." — Taylor's 5 in. fixed focus lens, Iris diaphragms; cost £3 17s. AMATEUR PHOTOGRAPHER, first nine vols., with all supplements and specials; offers; deposit. — Walter Talbot, 15, Cromwell Road, S.W.

Magic Lantern.—Lantern, 4 in. condensers, oil and lime, half-plate R.R. and W.A.R., for sale; or exchange good Safety bicycle with ball bearings. — C. Naylor, Batley.

Print-Washer.—Rotary print-washer, new; cost £1; what offers? — G. Fitch, Clovelly, Mayfield Road, Moseley, Birmingham.

Roller Spools.—Two Eastman roller spools; 5s. each. — Fry, 172, Edmund Street, Birmingham.

Safety Bicycle.—Exchange my Safety (Psycho), new last season, balls all over, and accessories, cost over £15, ball pedals, only used once, for really good make half-plate set by reliable maker; photograph 2 stamps. — W. Drake, 15, Thornton Road, Bradford.

Sets.—Quarter Merveilleux camera, rapid rectilinear Optimus lens, stand, two double slides, adapter; 40s. — Fisher, 31, Womersley Road, Hornsey.

Quarter Instantograph set, complete, two double backs, shutter, also half-plate rapid rectilinear lens; exchange 7½ by 5½ or whole plate Ross' symmetric or Optimus Euryscope, good condition. — Loftus Buscombe, Turret House, Bodmin.

Lancaster's whole-plate camera, two double backs, dark-slides, strong tripod and case, also splendid Eureka lens; price £5. — Tunstall, Amateur Photographic Association, 3, Lord Street, Liverpool.

Quarter-plate Brown's camera and three backs, Wray lens, with Iris diaphragm, folding mahogany stand, Newman's time shutter and finder, in solid leather case; cost £10 15s.; take £6. Also a 12 by 10, a No. 3 Suter lens and 5 by 4 camera with three backs; what offers? — Horne and Thornthwaite, 416, Strand.

Robinson's long-focus camera, quarter-plate, new last year, with stand and lens; cost 4 guineas; will sell for 40s. — E. H., 47, Maclise Road, Kensington, W.

Underwood's half-plate President, five slides, shutter, Optimus Euryscope, Ashford's stand; £9 10s. — H. Short, Perryn Road, Acton.

Half-plate Lancaster's Instantograph, one double back, landscape lens, and Lancaster's patent shutter, mahogany folding stand, new three months ago; £3 5s.; approval on deposit. — G. Manning, 97, Church Road, Nechells, Birmingham.

For sale, quarter bellows camera, Instanto lens, Iris diaphragm and shutter, tripod, double back; 22s. 6d. the lot; suit beginner. — T. B., 77, Anerley Road, Anerley.

Splendid half-plate camera, three slides, tripod, and case, all movements, new last season; cost £9; take £5 10s.; approval; particulars. — 315, Crookesmoor Road, Sheffield.

Marion's half-plate camera, with swing-back, reversing frame, sliding fronts, and three double dark-slides, leather case, and tripod stand, all new; cost £4 14s. 6d.; will accept £1. — P. H., 10, Appach Road, Brixton.

Lancaster's quarter-plate International camera, rectilinear lens, with Waterhouse stops, instantane-

ous shutter, tripod, two double dark-slides, waterproof case, washing rack and tank, etc., nearly new, genuine set; price £3 10s. — Swain, 28, New King Street, Bath.

Camera, Optimus half plate, square bellows, double extension, all adjustments, three double backs, new last year, perfect; list price £8 17s.; offered for £3 17s. Canvas case, 10s. — Davis, 87, Church Road, Richmond, Surrey.

Lancaster's Special 1886 camera, double slide, quarter-plate carrier, Optimus 7 by 5 rapid Eury-scope lens, stops, stand, and focussing cloth, nearly new; £3. — Optimus, 169, High Street, Ramsgate.

Half-plate Instantograph, good as new, all latest improvements, three mahogany double slides, lens, shutter, carriers, and tripod. — C., 72, Manor Street, Clapham, London.

Shutter.—Newman's whole-plate shutter, with adapter to work in front of lens; sell for £1, or useful exchange. — V. A. G., 20, Pembroke Road, Kensington.

Sundries.—Large camera and several other things, cheap. — Thos. Pinlott, Whitley Road, Macclesfield.

Clearing out.—Whole-plate camera, double back, all latest improvements, sacrifice 55s.; also half-plate camera, double back, with lens, a bargain, 45s., as new; plate-washer, quarter and half, 4s.; whole-plate Doublet, by Taylor, 50s. — J. Cresswell, 118, Watnall Road, Hucknall, Torkard.

Whole-plate camera and set, £8; Kodak, 70 exposures remaining, £3; Salvo tricycle, £7; Safety bicycle, £3; AMATEUR PHOTOGRAPHER, No. 32 to date, 10s. — R. P. Stuart, Lichfield Barracks.

Nine dozen half-plates, Iford and Marion's extra-rapid, 19s.; one dozen ordinary ditto, quarter, one dozen half Morgan and Kidd's ultra-rapid, three dozen quarter ditto, 4s.; 15 bottles Schering's pyro, 12s.; Burrow's and Colton's "Art of Retouching," with illustrations and negatives, 2s. 6d.; Edwards' ruby lamp, 2s. 6d.; view lens, 12 by 10, focus 14 ins., diameter 2½ good and quick for portraits, no flange, 10s. — Marshall, Hill Side View, Old Park, Bristol.

WANTED.

Amateur.—Wanted, an amateur, residing in Warwick, to take quarter negatives. — Wirth's, 15, Long Lane, E.C.

Amateur Photographer. Nos. 170, 171, 173, 175, 178, 205. — B., 53, St. Thomas's Road, Finsbury Park.

Cameras.—Stirn's Vest camera, large size. — Faulkner, Rue Hameau, Pau, France.

Half-plate Instanto camera and slides, good condition, cheap, for cash. — Chalmers, Watchmaker, Beaulieu.

Camera, etc.—10 by 8 camera, square bellows, reversing and swing-back, good maker, Meagher's preferred. — Bond, Bolimin.

Hand-Cameras.—Facile, fitted rectilinear lens; accept same and £5 for high-class half-plate set, new. — Tucker, Herrick Road, Loughborough.

Lenses.—Ross' rapid symmetrical lens, half-plate or larger, in good condition, cheap. — Address, Glazebrook, Melling, near Liverpool.

Lens, 7 by 5 R.R. Optimus (latest pattern), or other good make, cheap; send to Editor for inspection. — MacManus, Athlone.

18 or 20 in. rapid rectilinear, and 8 in. portable symmetrical, by good maker. — H., 10, Bishopsgate Avenue, E.C.

A Ross' or other good maker's quarter or half plate rapid rectilinear lens. — Box 13, Kandal.

R. R. lens, half-plate, about 7½ in. focus; approval; deposit. — C. Sharp, St. Andrew's Road, Plastow, E. R. R. lens for half-plate camera; state focal length. Address, Dundalk, care of Editor, AMATEUR PHOTOGRAPHER, 1, Creed Lane, Ludgate Hill, London, E.C.

Quarter-plate rapid rectilinear or landscape lens, week approval. — Harris, Windsor Road, Aintree, Liverpool.

7 by 5 Optimus R.R. lens, in perfect condition; approval required; state lowest price. — T. B. Berey, Athenaeum, Liverpool.

Lens and Roller Slides.—Wray's 5 by 4 R.R. lens, and Eastman's quarter and half improved roller slides. — Haynes, Wharfedale Chambers, Sheffield.

Roll-Holders.—Morgan and Kidd's roll-holder, perfect condition. — Hawksley, 76, Roe Lane, Southampton.

Eastman's quarter-plate roll-holder. — State lowest price to Appleton, Cleveland Mills, Stockton-on-Tees.

Eastman's improved quarter-plate roll-holder, must be cheap, for cash. — Garner, jun., Uxbridge.

Sets.—Complete half-plate set, by good maker; full particulars. — Sharland, Poltimore Terrace, Exeter.

For cash, Lancaster's 1889 Instantograph or other good half-plate set, good lens; give full particulars and lowest price. — O. C. Kirby, 21, Dickinson Street, Manchester.

Lancaster's quarter-plate camera, complete, requisites, etc.; approval. — Knights, 73, High Street, Braintree.

Half-plate rapid rectilinear lens, by good maker, half-plate camera, two double slides, stand, cheap; state particulars. — Davitt, 3, Baltic Street, East Hartlepool.

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NOTICES TO SUBSCRIBERS.

Subscriptions must be prepaid.

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INDIA, CHINA, ETC.	" 7s. 9d.....	" 15s. 3d.

NOTICES AS TO ADDRESS.

PUBLISHING DEPARTMENT.—All letters containing Subscriptions, Orders, Remittances, SALE and EXCHANGE Advertisements, or other business matters for the *Amateur Photographer* are to be addressed to the Publishers, HAZELL, WATSON, AND VINEY, LD., 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

NOTE.—SALE and EXCHANGE Advertisements, at the charge of Three Words for One Penny, can be received as late as WEDNESDAY MORNING.

ADVERTISEMENT DEPARTMENT.—All communications respecting TRADE Advertisements in the *Amateur Photographer* are to be addressed to PARRY AND CRAWFORD, 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

NOTE.—Trade Advertisements are received up to Tuesday morning.

EDITORIAL DEPARTMENT.—All Literary Contributions, Queries and Answers, Photographs for Competition or Criticism, Books or Apparatus for Notice or Review are to be addressed to the Editor, *Amateur Photographer*, 1, Creed Lane, Ludgate Hill, London, E.C.

NOTE.—To ensure insertion all Communications should reach the Editor on Tuesday.

CORRESPONDENCE SECTION.—Anyone wishing to communicate with Contributors can do so by forwarding such Communication in stamped envelope under cover to the Editor, *Amateur Photographer*, 1, Creed Lane, Ludgate Hill, London, E.C.

THE "AMATEUR PHOTOGRAPHER" FIRST LADIES' PHOTOGRAPHIC COMPETITION.

PRIZES.

First Prize	Gold Medal.
Second "	Silver Medal.
Third "	Bronze Medal.

(These Medals, of the smaller series, will be appropriately mounted as Brooches).

SUBJECTS.

Landscape or Seascape—Landscape with Figure—Genre or Figure Study.

NOTE.—The adjudication will be made by lady artists and lady photographers. It is hoped that it will be possible to make arrangements to exhibit the photographs at a *Conversazione* to be held in the offices, 1, Creed Lane, E.C., during the month of June.

Further particulars on application to the Editor, "*Amateur Photographer*," 1, Creed Lane, Ludgate Hill, London, E.C.

"AMATEUR PHOTOGRAPHER"

MONTHLY COMPETITIVE PAPERS, 1890.

The following Prizes are offered for competition every month:—

Three Prizes of £1 1 0 each.
Three Prizes of 0 10 6 each.
And Three Certificates.

The Papers must not exceed 1,000 words; and those which are awarded Prizes will be published in the *AMATEUR PHOTOGRAPHER*; others will be selected, and will be arranged for publication in the

"AMATEUR PHOTOGRAPHER'S ANNUAL."

Contributions are to be upon the subjects as list given below; and in order to make the matter more interesting, it is requested that each competitor shall give his *personal experiences*. It is intended that each subject shall be written up by a specialist for the *ANNUAL*, and the latest information given. All MSS. must be received not later than the

28TH OF EACH MONTH.

Subjects.

28th April	Action of Light.
28th May	Exposure.
28th June	Plates and Films: their Development and After Treatment.
28th July	Printing, Toning, Mounting, and Finishing.
28th August... ..	Artistic Effect and Composition.
29th September	Outdoor Instantaneous and General Photography

All MSS. to be addressed to the Editor, "*Amateur Photographer*," 1, Creed Lane, Ludgate Hill, London, E.C.

"AMATEUR PHOTOGRAPHER" MONTHLY PHOTOGRAPHIC COMPETITIONS.

THE PROPRIETORS of the *AMATEUR PHOTOGRAPHER* will offer, Monthly, two prizes, consisting of a

SILVER AND A BRONZE MEDAL (WITH RIBBON AND CLASP),

for the best and second-best photographs sent in to each of their Monthly Competitions. The subject of the Competitions will be as follows:—

LANDSCAPE OR SEASCAPE	June 14.
LANDSCAPE WITH FIGURE	July 14.
GENRE OR FIGURE STUDY	Aug. 14.
INSTANTANEOUS PHOTOGRAPHS, — ANIMALS, ETC.	May 14 .. Sept. 14.

Only one print is to be sent in; the negative of the prize pictures shall be at the service of the Proprietors, and all the prints sent in shall become the property of the Proprietors.

In addition to the Medals being given, the prize photographs will be produced in the *AMATEUR PHOTOGRAPHER*.

All photographs for any of the above competitions must be received by the

FOURTEENTH DAY OF THE FOLLOWING MONTH,

and as received will be acknowledged in the columns of the *AMATEUR PHOTOGRAPHER*.

Competitive prints are available for exhibition before Photographic Societies after the 1st of each month.

The prints will all be numbered, and when sent to societies, will be accompanied by a book for criticism. It is hoped that the President or other official will give a note stating the general opinion of the members of the Society.

Entry forms on receipt of stamped addressed envelope.

THE "AMATEUR PHOTOGRAPHER'S"

1890

TRAVELLING STUDENTSHIPS.

PRIZES.

First Prize	£30 0 0	Fourth Prize... ..	Gold Medal.
Second "	£21 0 0	Fifth "	Silver Medal.
Third "	£14 0 0	Sixth "	Bronze Medal.

The *AMATEUR PHOTOGRAPHER* Certificate, duly signed by the Judges, will be presented to the Prize Winners.

SUBJECTS FOR COMPETITIONS (Not less than Six Prints):

LANDSCAPE or SEASCAPE.—LANDSCAPE with FIGURE.—GENRE or FIGURE STUDY.

Rules, entry forms, and forms for declaration will be ready shortly. All those wishing to compete should apply to—

The Editor, "*AMATEUR PHOTOGRAPHER*," 1, Creed Lane, Ludgate Hill, London, E.C.



Vol. XI. No. 290.]

FRIDAY, APRIL 25, 1890.

[PRICE TWOPENCE.]

✿ OUR VIEWS. ✿

To hold as 'twere the mirror up to nature."—*Shakespeare.*

THE Bedford and District Camera Club have got to work and have arranged a capital programme for May. The Hon. Secretaries, Messrs. Alex Kirby, jun., and C. Perrott Smith, will be pleased to give all particulars to intending members.

* * * *

THE Secretary of the Oldham Photographic Society has been kind enough to forward us the programme of Rambles for 1890, which is admirably drawn up, and embellished with portraits of the executive, taken by the Vice-President, Mr. W. Thompson, and most tastefully arranged. We have a lively recollection of the very novel card issued in 1888, and must congratulate the Council for combining art and usefulness.

* * * *

THE editor of *Our School Magazine* is interesting himself in forming a Photographic Society for Woolwich. We publish a letter from him in another column; he will be pleased to hear from workers in photography who will be ready to help in the formation of a Society.

* * * *

THE members of the Auckland (N.Z.) Photographic Club are doing good work. At a recent meeting we understand that a member, Mr. Francis, read a paper upon "Eikonogen," and that another member, Mr. H. B. Morton, exhibited negatives developed by eikonogen, and others under similar conditions developed with hydroquinone. The results were good, in both cases, and some difficulty was found in discovering "which was which."

* * * *

In last year's Lantern-Slide Competition we had a slide entered, entitled "Hardham Lock, near Pulborough," and we should much like to know the name of plate and process. "If this should meet the eye" of our competitor, will he forward particulars? The slide attracted considerable attention when shown recently before the members of a photographic society.

WE are pleased to notice that Messrs. Anderson, Anderson, and Co., 5, Fenchurch Avenue, London, E.C., who are advertising "Pleasure Cruises to the Land of the Midnight Sun," are able to notify that dark-rooms have been fitted up on board the Orient Company's steam ships *Garonne* and *Chimborazo*. These vessels sail from London, calling at Leith. Further particulars will be found in our advertising columns.

* * * *

WE have no doubt the day is not far distant when "Dark-rooms" for photographic purposes will be attached to the Scotch and Irish expresses. What more delightful occupation for a long railway journey than the developing of negatives!!

* * * *

EARLY in May we shall again commence the publication of our list of towns in which we have the use of "Dark rooms." They will be under three headings—"Amateurs," "Professionals or Dealers," and "Hotels." As heretofore, cards of advice will be sent to the owners, and a letter of introduction setting out most complete particulars, which will include very useful information. In order in some measure to recoup us the cost of organisation and clerical work, it is intended to make a charge of *sixpence* for each application, which must, of course, be remitted in stamps. We hope in the cases of hotels to be able to secure to all photographic workers introduced by us the benefits of the tariff arranged for by the executive of the Cyclist Touring Club. We shall be glad of as much help as possible from amateur photographers residing in seaside towns or touring resorts, who may have "Dark-rooms." Every care will be taken by us to introduce only those who are thoroughly *bona fide* and respectable.

It will much expedite our arrangements if those ladies or gentlemen who are willing to grant us the use of their Dark-rooms will send us a note at once, so that the necessary form to be filled up may be sent them.

We have circularised the Secretary of every photo-

graphic society, and hope many societies having a Dark-room will allow us to introduce visitors. We shall especially notify time room available, amount of subscription for temporary membership, and any other particulars that may be desirable. We see in this "Register of Dark-rooms" a means to help the organisation which we intend to carry out, and trust our readers all over the kingdom will give us a helping hand. The growth of photographic work is enormous, and takes all our energies to keep up with; it will only be with the help of all that we shall be able to keep abreast of the times.

* * * *

WE are pleased to announce that we shall publish the Rev. Precentor Mann's "Three Weeks in Brittany," in the form of "Prize Pictures," reproducing several pictures by the Woodbury process. Mr. Paul Lange's "Norway" will be issued in the same form, the pictures being reproduced by the same process. The books will be exactly similar in style, and companions to Alex. Keighley's "Prize Pictures." Other contributions to our "Prize Tour Competition" will be published, but we are not at present prepared to state in what form.

* * * *

WE are always pleased to notice any firm who are assisting to advance and elevate processes for the reproduction of photographs. We have before us the prospectus of "Photophane, Limited," a company formed to work the Photophane process. Our readers will remember that in "Holiday Work," 1888, we reproduced a very charming photograph of Mr. Alfred Stieglitz's, entitled "A Good Joke," by the Photophane process. We quite believe there is a very large amount of business to be done by the process, and at no distant date shall place some of our work in the hands of the Company. As an investment, we are of opinion that the concern should pay, if rightly managed, a very fair and remunerative dividend upon money invested. Already a considerable amount of work has been done, and we hope the Company will secure the capital they require, and so be able to make the necessary extensions, and erect the additional plant needed to execute reproductions of photographs, which purpose the process is so admirably adapted to carry out.

* * * *

WE have been advised that it is proposed to hold an exhibition of photographic work and apparatus, under the auspices of the Edinburgh Photographic Society, in the galleries of the Royal Institution, Edinburgh, from about the middle of November in the current year, and extending over a period of about two months. The arrangements for the Exhibition have not yet been fully matured, but they will be completed, it is expected, at an early date, and will be duly announced. The recent correspondence in the AMATEUR PHOTOGRAPHER has been the means of waking up the Council to the necessity of doing something. The time chosen is not likely to induce many from the South to visit Edinburgh, but we suppose the Council of the Society know their own business.

* * * *

THE following from a competitor in the last "Monthly Competition" is exceedingly gratifying:—

"Allow me to take this opportunity of returning my heartiest thanks for the kind, lenient, and favourable

manner in which you have treated my humble productions. I have been jogging on in a quiet way since my commencement of photography, my principal incentive to strive on being your very excellent journal. Now I have attained to an 'honourable mention' therein, I feel awfully proud, and am going to do my 'level best' to carry off one of your very valuable and much coveted prizes."

* * * *

MR. JAS. DUDIN, of Roseneath, Chase Green Avenue, Enfield, writes us that he thinks a Camera Club might be started at Enfield. Perhaps our readers who are resident in the district will communicate with him.

* * * *

A RECENT prize winner writes: "I think the thanks of all amateurs are due to you for the very just and fair rules under which this (Prize Tour) Competition was held. It appears to me that when a competition of this class is thrown open to works that have gained many prizes and been exhibited times without number, and which cannot be passed over without awards, the ostensible object of the competition, the encouragement of amateur photography, is entirely defeated." Vulgarly we would say, "Them's our sentiments;" and we intend to work for one picture one medal.

* * * *

PRACTICAL application of photography has found yet another sphere. Mr. Alfred Watkins, of Hereford, has photographed the Pigeon-houses of Herefordshire, and, quite recently delivered a lecture, illustrated with lantern slides taken from his negatives. Mr. Watkins has photographed no less than seventy-three dove-cots or pigeon-houses, and is, of course, learned in dove-cot lore, a subject which may have some interest to our readers. We only call attention to the work in order to once more urge amateur photographers to go in for practical photography, and not be content with "picture making."

* * * *

ON Thursday the Blackburn and District Photographic Society opened their new meeting-room and dark-rooms in Royal Chambers, Victoria Street, Blackburn. The Secretary advises us that the rooms are open daily for the use of members, and that non-members and visitors can have the use of the dark-room on application to him.

* * * *

ON the 30th inst. Mr. T. R. Dallymeyer will read a paper upon "Photographic Lenses," before the members of the Society of Arts.

* * * *

A CORRESPONDENT writes—"The proposal to form an Amateur Society in Edinburgh is the general topic in this neighbourhood amongst readers of the AMATEUR PHOTOGRAPHER, and if pushed on by those who have already written you on the subject can easily be brought to an issue. I know half a dozen myself ready to join it."

* * * *

WE are pleased to note that the members of the Glasgow and West of Scotland Amateur Photographic Association are going to take up some thoroughly practical and useful work for the summer. An excellent scheme has been formed to take a series of pictures and to gather together

all the best views in the West of Scotland. The pictures are to be taken during six excursions, viz.—Glasgow; the Upper Clyde; down the Clyde; Loch Fyne and Arran; the Land of Burns; Loch Lomond and Trossachs, via Balloch. At the end of the season lantern slides will be made, and they will be shown at the Association's meetings, under the title of the "West of Scotland set of lantern slides." We hope the Council will loan the slides to other societies. In the South particularly, many will be delighted to have the opportunity of seeing depicted on the screen the charming scenery of the West of Scotland. We congratulate the Glasgow men upon their enterprise, and are sure that their summer work, if carried out according to their programme, will give them pleasure whilst securing the pictures, and will also afterwards give pleasure to thousands of others if they will loan them to kindred societies in the United Kingdom.

* * * *

THE holiday season is fast approaching, and already many are making their arrangements. A correspondent, a doctor, writes us that he is very anxious to proceed to Switzerland for three or four weeks, especially to photograph snow scenes, work that he started last year, and is very wishful to secure the company of a companion interested in the same work. We shall be pleased to give the doctor's name and address to any of our subscribers. We are quite sure that they would derive pleasure and instruction by his companionship.

* * * *

PHOTOGRAPHS AT NEWCASTLE.

In another column we publish a full list of the awards. We had the privilege of being present at the opening of the Exhibition on Friday in last week, and found that in Newcastle and district there are many ardent and faithful workers in photography. The district covered by the Association has resident in it professional photographers who have made their name, and who rank in the very first line of practical and art workers.

The Exhibition is well arranged, and some 1,000 photographs are shown. The amateur work is not of a high standard, except by those who entered the classes open to "Professionals and Amateurs," and in these classes we see familiar faces, and we venture to say that all the competitors are *pronounced* medal hunters; they have been hunting in Newcastle with the same pictures that they have been exhibiting all the winter season, but as a matter of fact these exhibitors are conspicuous by their absence in the list of awards. Mr. J. E. Austin takes *four* medals, all in the classes open to amateurs and professionals. In these classes we notice three medals are given to Americans, one to Mr. J. G. Bullock, and two to Mr. R. S. Redfield; and four medals are given to amateurs, for lantern-slides, Messrs. J. E. Austin, Henry Little, Jas. A. Sinclair, and Edgar G. Lee. Out of a total of thirty-four prizes awarded open to both classes of workers, ten go to amateurs (four to one man), and the remainder to professionals. In lantern slides, out of nine prizes awarded, five go to amateurs. In general work, out of twenty-five prizes awarded, five only go to amateurs, three to Mr. Austin, and two to our American cousins, Messrs. Bullock and Redfield.

These facts will show conclusively that it is absurd to couple the two classes of workers together.

We shall deal principally with prize pictures in "Landscape work above whole-plate;" the silver medal is awarded to Messrs. Green Bros., for "Stybarrow Crag, Ulleswater," "Blea Tarn, Langdale," and "Derwent-water and Skiddaw, from above Lodore," all masterful pictures, printed in platinotype, rather more deeply than we are accustomed to see Messrs. Green's pictures, with, we think, very distinct advantages. The bronze medal goes to Mr. J. P. Gibson (Hexham), for, in our opinion, the finest set of pictures in the exhibition, most delightfully composed pictures, printed in platinotype, toned to a warm sepia tint. These pictures, of which there are ten, are faultless, and the judges have done well in pricking "Weary," "The Road to the Mill," and "Autumn Haze;" in this latter picture there has been no dodging, but the effect is true to nature and very charming. Mr. Gibson also sends a fine series of "Cloud Studies," which are worth special notice. Other exhibitors in this class are Robinson, *père et fils*, the former sending the "Lobster Boat," and three pictures having no great merit, "Make Hay while the Sun Shines," "In Charge," and "A Mishap;" the latter sends three pictures, "A Helping Hand," "Sweet Spring-time," and "Baby's First Harvest," all well composed, but certainly not to be compared to Gibson's work. Mr. Sutcliffe contributes "The Ingathering" and "The Evening Hour;" these are not without fault, and we are not at all surprised that the judges passed them over. In the former the "lumber" in the right-hand corner is out of focus and too crowded. A worker of the standing of Mr. Sutcliffe must be careful about small matters.

In the class "Landscape, whole-plate and under," Mr. Gibson takes the silver medal for a most extensive exhibit of some fifty photographs. The views, "By Merry Tyne, on Moor and Lea," are well selected. Every one of these photographs is a picture, and they are in themselves worth a visit to the exhibition. It is impossible to notice them in any detail; they are printed in a warm sepia tint, and are a pleasing, and, to our mind, delightful contrast to the cold, grey platinotype that has become the "rage" for all subjects during the last year or so. We are glad to see a reaction in favour of warmer tones. The bronze medal was given to Mr. Austin for three pictures, "The Last of the Ebb," "Listening to the Bells," and "By the Tow Path," all much-exhibited pictures, and not always with success. Our American cousin, Mr. Bullock, secures an extra bronze medal for three views, which are certainly good, especially the view "On the Wawasett." Some good work is shown by Mr. Parry (S. Shields) on a matt-surface paper, which has been toned to a warm tone, the paper being sensitised by the ammonia nitrate process. A very instructive chapter upon this process will be found in "Silver Printing," by W. M. Ashman.

In the next class, "Landscapes on gelatino-bromide paper," only a silver medal is given, and this, in our opinion, is one of the weakest awards the judges made. The medal is given to Messrs. Auty and Ruddock for a "View on the Irthing," a really charming view well composed and lighted, but completely spoilt by the use of the brush *on the print*. Light is introduced where it would be quite impossible for it to be; the water is streaked and rippled in a most illegitimate manner; nature is improved (?) by this exhibitor, not wisely but much too well. We do hope professionals are not going to commence to

"work up" pure landscapes. The class altogether is a poor one, and the judges might have given the prize to any other competitor with equal if not more justice. In this class Mr. Welford shows four pictures which, if "View on the Irthing" is to be taken as a standard, deserve recognition.

In Portraiture the silver medal is given to Mr. J. Lafayette, for "Mrs. Langtry"—a painting, and not a photograph—"Miss Moody," and "Portrait of a Lady and Child." This exhibitor paints or works up his portraits admirably, but they are not in any sense photographs. Such work should be entered in a special class if it is necessary to exhibit it at all, but certainly ought not to be classed with such magnificent photography as that shown by Mr. W. Crooke (Edinburgh); his "John Mackenzie," "Stalwart Knight," and "Portrait of a Sikh" are unsurpassed for direct work. Mr. W. J. Byrne took the bronze medal with three portraits, 24 by 21 (direct and untouched), large shiny, inartistic pictures, with each particular detail standing out in most obtrusive realness; six portraits of the Emperor of Germany, better lighted and character brought out, due to the sitter and not the operator; ten "At Home" panels, taken by daylight at sitters' own residences. These may, and no doubt do, please the sitters, but they do not elevate photography. It is significant that no amateur, except our American cousin, Mr. Bullock, and the ever present Austin, with "Harmony," "Song," and "At the Pantomime," have entered this class. Mr. Winter exhibits several of his well-known and beautiful portrait studies, but he is passed over for the painter. Mr. Lyd. Sawyer exhibits portraits printed on Whatman paper; he also sensitises with ammoniacal nitrate bath. For portraits the effect is charming, and will, we are sure, be very popular amongst amateurs, especially for figure studies. Mr. R. W. Robinson contributes four of his excellent pictures, "Artists at Home," which are up to the standard of those previously shown. Other exhibitors who show good work are Mr. J. W. Beaufort, Mr. E. Greaves, and Mr. Thos. G. Whaite.

We shall have to continue our review next week. The Exhibition is a certain success, it has been largely attended, and the lecture on Friday last, by Mr. Paul Lange, on "Norway," drew a crowded house. It was listened to with much pleasure and attention. The Secretaries, Messrs. Lee and Brown, and the Executive are untiring in their attentions to exhibitors and visitors.

Letters to the Editor.

DISTRICT EDITORS.

SIR,—I had intended writing you before this regarding your suggestion of appointing District Editors, and as to which I note you invite the opinions of your readers.

It has occurred to me that the work of these District Editors would consist chiefly of reporting the meetings of the various societies, and as, under the existing system, the doings of a society are usually reported by one of its members, this particular member often uses the means thus afforded him to show to great advantage what he himself and one or two of his particular friends stated, or should have stated, whilst he ignores or ludicrously reports any who do not command his good graces; in other words, the present system, to my mind, is simply a facility for one member of a society to blow his own trumpet and that of a few of his particular friends:

not to speak of the cases where incompetent writers distort and render absurd utterances of speakers.

Now, my suggestion is that, at any rate so far as the metropolis is concerned, the District Editors should not be members of any society within their own district, and preferentially should be reporters, in which case they would not take part in the discussions, thus remaining unbiased in their opinions.

You have only to compare the reports given of the meetings of the larger societies, such as the Photographic Society of Great Britain, the Photographic Club, etc., with those contributed by members of the smaller societies, to see that the former are much more valuable and reliable than the latter, and that my suggestions are well grounded.—I am, yours, etc.,

A VICE-PRESIDENT.

* * * *

THE PROPOSED ILFORD SCHOLARSHIP.

SIR,—I am sure you will join me in deploring the conclusion reached in this matter, as shown in subjoined letters; and allow me to say, through your next week's issue, that I can only look forward with hope to the good time to come, when we shall have more cohesion between the various societies, more unanimity of purpose in the endeavour to add to the dignity of photography, and less airing of presumed personal grievances and idiosyncrasies. Then the amateur and professional, as such, will exist no longer, but all will be photographers without any invidious distinction, other than merit; and all will form a race, by training and education, infinitely superior to their fellows of to-day.

The Britannia Works Company hoped that their offer of a scholarship would have been the foundation-stone of such a utopia; but it seems we are ahead of the times. No one appears equal to the task of laying that foundation-stone aright.

When some one society or a committee of leading men see their way to fitly utilise the gift, it will be waiting for them.—Yours faithfully,

JOHN HOWSON.

The Britannia Works Company, Ilford, London, E.

April 18th, 1890.

To J. Howson, Esq.

Dear Sir,—With reference to your letter of the 29th ult., I am directed by the Council of this Society to send you a copy of the following resolution which was passed yesterday evening, "That the Council of the Photographic Society of Great Britain, while thanking the Britannia Works Co. for their offer, regret that after due consideration, they are unable to accept it."

A. M. MANTELL (Secretary).

Photographic Society of Great Britain.

To Captain A. M. Mantell.

Dear Sir,—I thank you for your letter of yesterday, and share the regret of the Committee at the non-acceptance of the proposal of a Scholarship. If I may be permitted to express an opinion on the matter, I feel that there is a great want of due regard to the interests of photography, when a free and absolutely unfettered gift of £100 per annum to benefit the art-science cannot find a recipient.

JOHN HOWSON.

* * * *

YELLOW CALICO v. RUBY CLASS.

SIR,—In reply to "Calico's" letter, in which he asks "why canary-coloured glass is not used instead of the ruby," I can only give him one reason, and that is that experience has taught us that it is not safe. Ruby glass is preferable. I suppose the canary glass is too transparent, and does not filter the light sufficiently. I have heard that glass of a "cathedral green" is nearly as good as ruby, but of that I have had no experience. I hope "Calico" will allow me to persuade him to try the *yellow calico*, and afterwards communicate his ideas through the medium of the AMATEUR PHOTOGRAPHER, so that others may have the benefit of hearing another speak who has suffered, but is now happier for his—

EXPERIENCE.

* * * *

SOCIETY FOR WOOLWICH.

SIR,—For some months past a small class in photography has been held in Woolwich. It is now thought possible to establish a photographic society for Woolwich and district. May I ask you, with your usual kindness, to insert this letter, that those who would like to join may send their names and addresses to, yours faithfully, THE EDITOR OF "OUR SCHOOL MAGAZINE."

3, Adelaide Place, London Bridge, London, E.C.

Chemistry for Photographers.

By C. H. BOTHAMLEY, F.I.C., F.C.S.

(The Yorkshire College, Victoria University).

(Continued from page 256.)

LAWS OF CHEMICAL COMBINATION.

Now that we have acquired some knowledge of the qualitative conditions which affect chemical combination, we must learn whether any *quantitative* relations are associated with the phenomena. The investigation of this question requires experimental work of a very delicate and difficult kind—of a kind therefore quite beyond the capacity of a beginner. The statements which follow must therefore be taken on trust, bearing in mind always that they are the *results of experimental work* done with the greatest care and skill. Chemical analysis of carefully purified compounds, the determination of the proportions by weight in which elements combine directly, and determinations of the quantities of different compounds which can be obtained from a given weight of one of their constituents have led to the following results, which are generally spoken of as the LAWS OF CHEMICAL COMBINATION.

(1) *The same compound always consists of the same elements united in the same proportions.*

Common salt always contains, if pure, in 100 parts, 60·61 parts of the element chlorine and 39·39 parts of the element sodium; pure silver bromide always contains in 100 parts 57·45 parts of silver and 42·55 parts of the element bromine; marble always contains in 100 parts, 40 parts of calcium, 12 parts of carbon and 48 parts of oxygen.

At first sight it might seem self-evident that the same substance should always have the same composition, but there are really no reasons *a priori* why it should be so, and as a matter of fact this constancy of composition was only definitely proved and accepted in 1806.

When the elements combine together they always unite in fixed and definite proportions by weight.

This is known as the “law of constant proportion;” it looks like a new statement, but is really only another way of putting the result which has just been explained.

It is found that one part by weight of hydrogen combines with 35·4 parts of chlorine to form hydrochloric acid, and never with any other proportion of chlorine; one part of hydrogen combines with 80 parts of bromine to form hydrobromic acid, and never with 78 parts or 82 parts or any different proportion; 35·4 parts of chlorine always combine with 107·9 parts of silver to form silver chloride, and with no more and no less. The law holds good for all the elements and all their compounds.

(2) *When the same two elements unite in more than one proportion, the higher proportions are always simple multiples of the lowest.*

This is the “law of multiple proportion.” Notice in the first place that it is not a contradiction of the preceding law. No matter how many different proportions there may be, they are *always definite*, and stand in a simple relation to one another. The exact meaning of the law will be better understood after careful consideration of the following examples.

There are two chlorides of mercury (compounds of mercury and chlorine), one soluble in water, the other insoluble, and they are found by analysis to have the following composition:—

	Insoluble chloride of mercury.	Soluble chloride of mercury.
Mercury ..	200 parts	200 parts.
Chlorine ..	35·4 „	70·8 „

The proportion of chlorine in one compound is exactly double that in the other.

There are two compounds of chlorine and tin, one a solid, the other a liquid; they have the composition:—

	Solid chloride of tin.	Liquid chloride of tin.
Tin ..	118	118
Chlorine ..	70·8	141·6

Here again the second proportion is just double the first. There are two compounds of chlorine and phosphorus; one is liquid, the other solid, and they have the composition—

	Liquid chloride of phosphorus.	Solid chloride of phosphorus.
Phosphorus ..	31 parts	31 parts.
Chlorine ..	106·2 „	177·0 „

Here it seems at first sight that the law does not hold good, and that there is no simple relation between 106·2 and 177·0, but examination shows that $106·2 = 35·4 \times 3$, whilst $177·0 = 35·4 \times 5$, and hence the two proportions are in the relation of 3 to 5.

The compounds of copper furnish similar examples:

	Oxides.	Chlorides.	Sulphides.
Copper	126·6 63·3	Copper 126·6 63·3	Copper 126·6 63·3
Oxygen	16·0 16·0	Chlorine 70·8 70·8	Sulphur 32·0 32·0

The proportion of copper in the one series being double that in the other.

Other compounds of tin besides the chlorides stand in a similar relation to one another.

	Black oxide.	White oxide.	Black sulphide.	Yellow sulphide.
Tin ..	118	118	118	118
Oxygen	16	32	32	64

We find, in fact, that in the majority of cases where two elements combine in more than one proportion the higher proportions are 2, 3, 4, 5, or 6 times the lowest, or the different proportions are in the relation of 2 to 3, 3 to 5, or some other simple ratio.

(3) *The proportions in which two elements combine separately with a third, have a simple relation to the proportions in which they will combine together, if such combination is possible.*

This is the “law of reciprocal proportion.” Consider carefully the following examples:—

35·4 parts of chlorine combine with 107·9 parts of silver to form silver chloride.

126·9 parts of iodine combine with 107·9 parts of silver to form silver iodide.

35·4 parts of chlorine combine with 126·9 parts of iodine to form iodine chloride.

Here the proportions in which chlorine and iodine combine separately with silver are identical with the proportions in which they will combine with one another.

16 parts of oxygen combine with 215·8 parts of silver to form silver oxide.

32 parts of sulphur combine with 215·8 parts of silver to form silver sulphide.

32 parts of oxygen combine with 32 parts of sulphur to form sulphur dioxide (the strongly smelling gas which is formed when brimstone burns).

Here we find that the proportions in which oxygen and sulphur separately unite with the same amount of silver are as 16 to 32; the proportions in which they unite together are as 32 to 32, or, in other words, as twice 16 to 32.

Lastly, a more complicated case, in which you can work out the ratios for yourself—

12 parts of carbon combine with 64 parts of sulphur.
12 parts of carbon combine with 32 parts of oxygen.
32 parts of oxygen combine with 32 parts of sulphur.
48 parts of oxygen combine with 32 parts of sulphur.

Laws of Nature.—This is the first time we have met with

natural laws, and as the meaning of the term is very generally misunderstood, it will be well to point out what a law of nature really is. A law of nature is *simply a statement of the uniform results of our experiments or observations*—uniform in the sense that *so far as we yet know* there is no exception to it. We have not yet met with combination between two elements occurring in indefinite proportions; we have not yet found two bodies which do not attract one another with a force varying directly as their masses and inversely as the square of the distance between them.*

A law of nature does not *explain* anything; it simply tells us that, according to observation and experiment, a certain thing *always* happens under certain conditions; it does not tell us *why* it happens. As soon as we know the cause of the law, it ceases to be a law, and becomes a *necessary consequence* of that cause. It is well known in physics that the illumination of a surface by a luminous point varies inversely as the square of its distance from the point, but this is not a "law of nature;" it is a *necessary consequence* of the fact that light waves from a luminous point proceed uniformly in all directions.

Mathematical axioms and self-evident truths are not laws of nature; we cannot conceive that they could be otherwise. The laws of chemical combination and the law of gravity might have been quite different; we can show no reasons *a priori* why they should be just as they are.†

A law of nature, then, is simply a statement that so far as our knowledge goes, under certain conditions certain things always happen; *why* they happen we do not yet know.

(To be continued.)

P.S.—The laws of chemical combination are very important, and they will not be understood without careful study. If any student, after an honest endeavour, fails to understand the explanation given, it would be well if he would send a precise statement of his difficulties to the Editor, in the form of a "query" addressed to me. C. H. B.

Photographic Printing Processes. No. X.

By ANDREW PRINGLE.

BROMIDE PAPER PRINTING.

WE now leave behind us the processes where we have excess of silver nitrate or organic silver salt, and the consequently visible image without development; and we enter a domain entirely new in respect of there being no excess of silver, no image visible without development, and much less of combination between silver salts and organic substances such as albumen and gelatine. In the albumen process much of the beauty of result and many of the dangers to results depend on combinations, more or less definite and understood, between silver nitrate and organic substances; but in the gelatine bromide process of printing, free silver nitrate has very brief, if any, contact with gelatine, and we may look upon the gelatine as practically an "indifferent" menstruum for holding the silver bromide on the surface of the paper. Certainly the less opportunity afforded for combination between silver nitrate and gelatine the better, and in good bromide emulsions, especially in slow emulsions, we do not expect to find any such combination. This absence of doubtful combination is a great safeguard against instability of results. I never remember to have seen a faded bromide

print, though I have many a time given bromide prints a very good chance of deteriorating in course of my experiments. On the other hand, the ordinary bromide paper gives us but little scope for variation in tone of our prints; the warm colours sometimes produced on ordinary bromide paper, as the result of special exposure and development, are never good tones, while the tones produced by very prolonged exposure on specially prepared emulsion frequently containing organic salts are very unpleasant unless the prints are "toned;" in fact, papers of this kind are made intentionally for the toning operation. Some of these very slow papers intended to be toned are very good, but we are not dealing with them at present.

A very strong point in favour of bromide paper is the fact that with it we have a great power of meeting defects in our negatives, more power than with any other process. We can make a good print from the weakest or from the densest negative by variation of exposure and development. Another point in favour of this process is that though we have not much range of good tone, still we can produce a tone not to be surpassed by any process whatever. With good bromide paper, prints can be produced from any negative, quite equal to the best platinotype print, in spite of the denials of some who have not mastered the bromide process; while with bad negatives, bromide paper prints surpass platinotype ones. At the same time I do not deny that if I had to print a batch of good negatives, I would use the platinotype process in preference to any other. I always do use platinotype when I can, and when there is no reason to do otherwise.

Another point for bromide paper is that we can with very little trouble produce enlarged or diminished prints from our negatives. Very often a slight alteration in size is desirable.

There is one very serious drawback to the bromide process, and sometimes it is a practically fatal drawback—the image is invisible until it is too late to alter or add to it; in other words, "double-printing" is very difficult. I do not say that combination printing, as of clouds over a landscape, is impossible, but it is far from easy, and never certain in contact printing; in printing by enlargement it is easier, but still not child's-play. I cannot but reproach the process of bromide printing for the too large number of prints, in albums and even in exhibitions, showing glaring white paper where we should have suggested clouds or delicate tinting.

I have often wondered why amateurs as a rule produce such poor bromide prints. The average of such could certainly not easily be mistaken for platinotype, and I do not consider a bromide print good unless it is of platinotype appearance. I need not say that I would never dream of glazing a bromide print intended as a picture, but I do say that I have several framed prints which neither I nor anyone else who has seen them can assert to be by one or the other process.

I have stated that in bromide printing we have a great amount of control over our results, and a power of making fair or even good prints from negatives practically incapable of yielding good prints by any other process. We require only to understand thoroughly what will be the effect of certain treatments in order to have this power over result at our command. The following may be taken as general rules:—

Long exposure tends to softness, or harmony; overdone, to flatness, fog.

Short exposure tends to brilliance, pluck; overdone, to hardness, want of detail, "chalk and soot."

In development: Plenty of iron in ferrous oxalate tends to good rich blacks; overdone, to harshness.

* This is the law of gravity.

† See "The Origin of the Laws of Nature," by Lord Grimthorpe.

Weak iron gives more softness; overdone gives poor or even "mealy" prints.

Bromide in minute quantities slows development, and tends to richer shadows and purer whites; overdone, produces hardness, often bad colour, and even sometimes gives a nasty "grain."

With quinol developer the latitude is great, the chief point being to give plenty of exposure but to make development slow. In such a case we can almost do as we like with our print, but over-exposure and rapid development give ugly colour to the details.

If we have to print a very dense negative full of violent contrasts, our best course will clearly be to give a very long exposure, and develop with ferrous oxalate weak in iron. *Per contra*, a "ghostly" negative may be made to yield even a hard print by very short exposure and brisk development with a large proportion of iron to oxalate, and the bromide may be above the normal in quantity. With any negative of average quality we can make two prints wholly dissimilar in quality yet both good of their kind.

The question now evidently is, what is the "normal" developer? The two developers which I would recommend for bromide printing are ferrous oxalate and quinol with carbonates. Pyro can be used, also quinol with caustic, also eikonogen; but I do not like them so well, nor consider them so safe as the two following.

For ferrous oxalate we have to keep two "saturated" solutions, one of potassium oxalate, one of ferrous sulphate. It is better not to heat the solutions to cause saturation, but to keep them in large bottles at about 60° Fahr., a quantity of the salt always being visible undissolved at bottom of the solution. But the solutions should be stirred from time to time, always before filtering off a quantity for use. The iron should be kept decidedly acid, each pint of the solution should have at least ten minims of sulphuric acid, and the oxalate should have a trace of acid, which may be acetic or oxalic. If the solutions are too acid, development will be slow, but probably the prints will be clear. I do not like to keep iron very long in solution; a month is perhaps the longest time permissible.

A Normal Developer may be put down as—

Potass. oxalate solution	..	..	6 drms.
Iron solution	..	..	1 dr.
Bromide	..	..	$\frac{1}{2}$ gr.

A strong developer would be 1 of iron to 4 of oxalate. A weak developer, 1 of iron to 10 of oxalate. Water may be used to weaken any developer, but I do not recommend that system. Half a grain of bromide per ounce of developer is always to be recommended. I do not as a rule go beyond 1 grain of bromide per ounce, for reasons above given.

Quinol or Hydroquinone Developer—

(A) Sulphite of soda	..	..	240 grs.
Water	..	..	10 ozs.
Dissolve, then add Quinol	..	..	80 grs.

A few grains of citric acid may be added, but I do not find it necessary, if the solution is not to be kept over a week.

(B) Carbonate of soda, saturated solution at 60° Fahr.
The Developer—

(A)	..	..	..	..	2 drms.
(B)	..	..	..	..	2 "
Water, to	..	..	..	..	1 oz.

In certain cases a caustic alkali may be used instead of or in addition to the carbonate, but I prefer the carbonate alone. With this developer if the exposure has been up to a certain mark and not enormously beyond it, the image comes up gradually, slowly, and steadily, and all we have to do is to stop it at the proper moment.

Photographic References.

BY MAJOR J. FORTUNÉ NOTT.

ACCESSORY APPLIANCES.

(Continued from page 257.)

Focussing Eye-piece.—This is a small magnifying glass usually made of two plano-convex lenses so mounted that the distance between them can be readily adjusted to suit individual peculiarities of eyesight. By the aid of a focussing glass of this description the details of the image on the ground-glass are considerably magnified, and hence their proper degree of sharpness can be more correctly regulated. There are several forms of magnifying glasses suitable for this purpose, but those in which the adjustment is made by one part of the tube working into the other with a screwing attachment are generally considered preferable to those in which the two parts simply draw apart after the manner of a telescope, for in the latter form the precise adjustment required is not so readily obtained or secured.

Under certain circumstances where the utmost possible sharpness of image is essential, the aid of a focussing eye-piece is invaluable; but the operator should train himself to be able to readily obtain the correct focus under ordinary conditions without having to resort to the use of any instrument for giving extraneous assistance to his eyes.

Spirit Level.—This small implement for aiding the photographer to adjust his camera so that the lines on the ground-glass are made horizontal or parallel to the plane of the horizon, is frequently a valuable adjunct to his kit. There are many patterns of levels suitable for the purpose, but the form of camera used should be a guide to the selection of the article. In some makes of cameras the baseboard carries the bellows parallel, and in one of this description a small level can be sunk therein which is easily regulated; in others the level would have to be situated on the very top of the camera to be effective, and then it would only be an exceptionally tall man that, under ordinary circumstances, could see it. Probably the best all-round form is the small spirit level made for placing on the side of the camera, wherein the bubble can be seen from either side. But individual requirements can easily be satisfied by the dealers, for, as before said, the designs are numerous.

Although this little instrument may now and again be useful, yet it is never an absolutely necessary article to possess if the eyesight is fairly good and can discern any want of correctness in the lines formed on the ground-glass. By using the frame of the focussing screen as a guide, or by even having it divided by lines as before recommended, it is always easy to recognise the fact of the camera being off the correct level, and to give it the necessary adjustment. If, however, the photographer has exceptionally defective sight, a sure guide for enabling him to level his camera, whether in the form of a spirit level or a plumb line, should be looked upon as an indispensable adjunct, for otherwise he will run some risk of giving his pictures false lines, which, in the event of buildings being seen therein, will make the result of his perhaps otherwise skilful labour absolutely worthless.

The Shutter.—The article known by this name to photographers is employed for the purpose of giving the sensitive plate the correct exposure, more especially under circumstances where the action of covering or uncovering the lens has to be performed in such a rapid manner that the hand is unable to uncap, completely uncover, and recap the lens in the fractional division of time the subject necessitates. A shutter therefore becomes an indispensable article for the

photographer to possess if at any time he desires to photograph moving objects, or in the event of his having to employ excessively sensitive plates for the purpose of securing fleeting effects. It is only the most expert operators that can without the assistance of a shutter give an exposure of less than a second in the ordinary way, when the requisite care is exercised to avoid shaking the camera by the jerking action such quick manipulations require. Some people have particularly unsteady hands, and in the event of any one afflicted in this way becoming a photographer, a shutter of some sort or another should invariably be employed, for obvious reasons.

Of late years, since dry plates of extreme sensitiveness have been placed at the service of photographers, the literature of the art-science has been deluged with articles on shutters and kindred subjects, and so many opinions have been expressed upon the best form of mechanism the instrument should possess and the speed at which it should work to be effective, that among this diversity of advice the beginner is apt to get bewildered or driven to purchase an article quite unsuitable for his requirements. Even in the event of his having had some experience of the subject, and formed opinions of his own thereon, he will find that the vendors of photographic appliances have so many different "patent articles" for sale in which his ideas are more or less embodied, that he has still some difficulty in making up his mind upon the question, to which photographers are apt to attach an undue importance, which make of shutter is the best to choose?

Some shutters are made to fit on the hood in front of the lens, others in the diaphragm slit between the lenses, and others at the back of the lens. There are some shutters in which the speed admits of regulation, others that have only one action. Some shutters are merely modifications of the ordinary drop, others are more complicated, having an action known as the go and return, which means that the exposing part of the apparatus has to rise and fall to accomplish its work. In fact, as before said, the diversity of forms becomes bewildering, and to enter here upon a minute description of their various attributes and qualifications would lead us beyond the confines of the object these articles have in view.

A shutter, to be a really useful instrument, should have the following features. Whatever its action may be, at no point of its working should it communicate any jar to the camera. Many shutters, otherwise cleverly designed, fail on this one test. Many of the go-and-return pattern have two points at which they communicate a perceptible shake to the lens; one when it is fully uncovered, and the other when the shutter closes. Of course, the least objectionable is the jar that occurs after the lens has been covered, but for many reasons this shaking of the apparatus, although it may not affect the plate when being exposed, is an undesirable feature for a shutter to possess. A good test for this point is to place a tumbler of water on the camera, and after it is perfectly at rest to release the shutter; any movement communicated to the camera can be at once discerned by watching the effect produced upon the water.

The release of the shutter should be that known as the "pneumatic," which consists of a hollow india-rubber ball, attached to a tube of the same material fastened to a small metal piston. By the pressure of the ball the air is forced through the pipe into the piston, and a small rod therein is moved so as to liberate the driving action of the shutter. Shutters having a release whose working necessitates pressing a catch with one finger are not to be recommended, because there always exists the possibility of a shake being given to the camera by the hand.

The action of the shutter should be made in such a way

that the point at which it admits the maximum amount of light should remain uncovered during the longest possible subdivision of the time for which the exposure is regulated. That is to say, theoretically speaking, it should open and close from the centre. One working on the system of the parallel rulers, that is, opening from the centre right across the lens, and closing again by the reverse action, is, no doubt, as far as the manner in which the exposure is made, as good an instrument as can be procured, for the light is admitted at the centre of the lens across its full width, during the whole of the exposure. In ordinary practice, however, shutters made on the principle of the ordinary drop, or in which a circular disc, out of which at one part an aperture has been cut, is made to revolve, so that during a fraction of time the lens is completely uncovered, are all effective instruments.

(To be continued.)

Birmingham Photographic Society.

PRESENTATION OF THE CHALLENGE CUP.

THE members of the Birmingham Photographic Society dined together at the Colonnade Hotel, New Street, on Monday evening, April 21st, to celebrate the success of the Society in carrying off the National Challenge Cup offered by the Crystal Palace Company for competition among the photographic societies of the United Kingdom.

About fifty members were present at the dinner, the chair being taken by the President of the Society, J. B. Stone, Esq., J.P., F.L.S., F.G.S., etc., who was supported by the ex-President, Dr. Hill-Norris, Messrs. Jerome Harrison, and E. H. Jacques (Vice-Presidents), J. H. Pickard and A. J. Leason (Hon. Secretaries), and the leading members of the Society. Captain Henshaw Russell, with Messrs. Wollaston, Peasgood, and Brooks, came down from London to represent the Crystal Palace Company, and to present the Cup.

We may say that the object for competition is a large and very handsome sterling silver cup of considerable value. The upper part lifts off, and is provided with handles to serve as a "loving cup," in which capacity it circulated among the company during the evening.

After the usual loyal toasts, the President proposed the "Crystal Palace Company," the donors of the Cup. He dwelt on what he called the poetry of photography, which, he pointed out, arose not only from the love of the beautiful, but from the associations which clustered round the subjects of the photographer's art. Dealing with the question of the proposed photographic survey of Warwickshire, Mr. Stone said that it should be considered not as hard, dry, matter-of-fact business, but as a matter of sentiment. What should inspire every one who undertook a share of that work was love of the persons and places they knew, the love of those associations which made their life what it was, the pleasure and sunshine and happiness which they and their families and their friends enjoyed. Of all these things they wanted a permanent record; they wanted to stop the fleeting events of the moment, and treasure them as long as they lived, and hand them down for the advantage and the pleasure of those who came after them. To those who entertained any doubt as to the success of the scheme he would say, "You have never tried it," and that there was a possibility of its succeeding if the right men were appointed as the survey council.

Captain Henshaw Russell replied, and congratulated the members of the Birmingham Society on having won the Cup in competition with photographers of the United Kingdom. He had the more pleasure in congratulating them because their Society consisted mainly of amateurs, and had won the Cup against the competition of professionals. He hoped the Birmingham Society or a similar one would win it next year, for he was sure that the donors would prefer to see it become the property of amateurs.

Dr. Hill-Norris proposed "The National Photographic Exhibition," and referring to the supposed discovery of colour photography, expressed disbelief in it, but said that he was not without hope that the dream would some day be realised. He believed,

however, that the discovery was more likely to be made by some original mind rather than by means of ordinary scientific investigation. He was one of those who thought that the order of things was so related to the instincts within us that the very instinctive want of a thing was almost to be taken as a proof of possibility.

The toast was replied to by Mr. Wollaston, who stated that the idea of a National Challenge Cup had first been suggested to him in Birmingham by Mr. Jerome Harrison. The judges were wholly unfettered in their decision; they were well-known and honourable men; and from his own knowledge of every incident he could say that the win of the Birmingham Society was decisive and well deserved.

Mr. Peasgood also responded, the latter gentleman concluding by proposing "The Birmingham Photographic Society," coupled with the name of Mr. W. Jerome Harrison.

Mr. Harrison traced the history of the Society from the time when half-a-dozen friends met in a small room in Paradise Street in 1885. They soon secured (by the kindness of the School Board) better accommodation at the Technical Schools in Bridge Street; but increasing numbers and social needs forced a removal to the Grand Hotel (with an increased subscription), but the re-construction of that building, which was now in progress, had compelled another move to their present quarters in the building in which they were now met together, and in which they had secured comfortable rooms, with a small dark-room adjoining. The existing Society, Mr. Harrison remarked, had been very fortunate in its officers. In their first President, Dr. Hill-Norris, they had a man whose name was a tower of strength in the photographic world, and Mr. Stone (whose name was known and respected throughout the midlands) was a worthy successor. Their Secretary, Mr. J. H. Pickard, had been indefatigable and fearless in the cause of the Society. By fairly and squarely winning the National Challenge Cup, the Birmingham Photographic Society had reached a high position in the photographic world. They had sent into the competition the largest number of pictures, by the largest number of exhibitors; these exhibitors were, with *only one exception, amateurs*; and the work exhibited was *all new work*. They had won the Cup, and they meant to try hard to keep it. But if another year they were unsuccessful, he could assure the representatives of the Crystal Palace Company that there should be no complaints on their part, and that they would accept defeat with the same cheerfulness that they displayed after victory. As to the photographic survey of Warwickshire, Mr. Harrison thought that it was a work which it was the plain and direct duty of the Birmingham Photographic Society to organise and aid in carrying out. Already a similar work had been commenced elsewhere by ten or a dozen societies, and in no case had any other society thought of delegating to a new organisation a task which it ought to be the highest ambition of its members to carry out successfully. Still, if those with more influence than he possessed believed that the photographic survey of North Warwickshire could be better carried out independently of the Birmingham Society, he should be only too pleased to co-operate with them. But if so, let the movement be at once inaugurated—the photographic season is upon us, and there is not a day to spare—the new society formed, and the work begun.

Mr. E. H. Jacques proposed "The Visitors," which was responded to by Mr. Brooks, and Mr. C. F. Marston (Hon. Secretary of the Vesey Club).

During the evening a musical entertainment was given, and a clever conjuring performance.

On the next evening, Tuesday, April 22nd, a very large audience of the members and their friends assembled in the Temperance Hall, Temple Street, and were entertained by Messrs. Brooks and Peasgood with an exhibition of lantern slides of almost unique quality, including the famous series illustrating the Tower of London, Windsor Castle, etc. Mr. Brooks has a world-wide reputation as a manipulator of the optical lantern, and the exhibition was a treat for those who love to see that instrument scientifically manipulated, and the best results obtained.

For the coming year the Cup will find a fitting home in the magnificent Municipal Art Gallery, which Birmingham is so fortunate to possess, and where the Mayor (Mr. Clayton) and the Curator (Mr. Whitworth Wallis) have also requested that examples of the winning pictures may be sent to bear it company.

Science Notes.

LOVERS of English rural scenery—as all photographers are or should be—will welcome another volume by Mr. J. J. Hissey, on Essex, Suffolk, and Norfolk, entitled "A Tour in a Phaeton" (Bentley). The route taken is from London to Colchester and Ipswich, thence by the coast to Saxmundham, Yarmouth, and Cromer; returning to town by Bury St. Edmunds, Sudbury, and Chelmsford.

Kew Observatory is a most useful scientific institution, as is proved by the Report lately issued, and which can be obtained, post free, by forwarding three stamps to the Superintendent, G. M. Whipple, Esq., Kew Observatory, Richmond, Surrey. It appears that during the past year no fewer than 14,266 meteorological, surveying, and other scientific instruments were tested at Kew, a certificate containing full particulars as to the performance being issued with each; while 104 were rejected as not being sufficiently accurate.

Two or three years ago we suggested that Kew should undertake the testing of lenses, shutters, etc., and we still "live in hopes" that this will some day be done. The man who pays Ross or Dallmeyer from £5 to £50 apiece for his lenses will not grudge an additional half-crown for an official certificate of their performance.

As an old chess-player we have frequently felt the inconvenience of an interrupted game. There is seldom time or opportunity to record the position of the pieces, and many have been the disputes as to "who would have won that game" had it been finished. But in an instance of this kind which occurred last month we had a friend who "rose to the situation." He placed the chess-board on the floor, clamped his camera to the table top, the lens pointing downwards, and with the help of a flash-lamp secured a capital photograph of the "positions of the men." The game was subsequently finished by correspondence, and our friend won, to his great delight.

How many cameras are absolutely light-tight? Well, perhaps not many. And that is why we carefully envelop the instrument in the focussing cloth before making the exposure. Hand or detective cameras seem especially faulty in this respect, and the weak point is generally the shutter. A camera which may be quite safe in the dull light of a town fogs all the plates when used in the brilliant light of the sea-side. Let everyone test their camera in this way. Open the back of the instrument, cover that and the eyes with the focussing cloth, and let a friend burn a piece of magnesium ribbon in front of the shutter. We have just tried this test on two of the best-known and highest-priced hand-cameras of the day, and both failed lamentably, as the skilled optician who aided us can testify.

To remove glass stoppers which have become fixed in bottles, first try the plan of tapping the stopper on each side, alternately, with a piece of wood—the handle of a hammer answers best. If this fails, tie two pieces of strong inelastic string round the stopper, one on each side, fasten the strings together, and pass them over a hook in the ceiling or a strong beam. The bottle can then be jerked downwards, and a great strain put on the stopper, by which it is usually extracted.

Every photographer knows how to produce blue prints. The following directions for obtaining red, green, and violet pictures are by the well-known American worker, Mr. Estabrooke. Float ordinary writing paper (which has not been exposed to the light for a few days) for four minutes on a bath containing nitrate of uranium 2 drms., distilled water 10 drms. Dry in a dark place. Expose this paper beneath a negative for eight or ten minutes; wash in plain water for a few minutes; and immerse in a bath of ferridcyanide of potash 30 grs., water 3 ozs. In a few minutes red prints are obtained, which must then be well washed to fix them.

By immersing the red prints (without drying) in a solution of sesqui-chloride of iron 30 grs., distilled water 3 ozs., the tone changes to green; wash, and dry before the fire.

Violet prints are obtained by floating any good white paper for three or four minutes on water 2 ozs., nitrate of uranium 2 drms., chloride of gold 2 grs. Dry and expose beneath a negative for ten or fifteen minutes. Finally, wash well and dry.

Aluminium—the metal which is to displace the heavy brass for lens mountings, camera fittings, etc.—is being largely manufactured at Oldbury, near Birmingham, under the patent of the American inventor, Mr. Castner. Aluminium is the commonest of all metals, being found in 200 minerals, including granite and

clay. But hitherto it has been very difficult to extract from its ores. The Aluminium Company, whose offices are at 115, Cannon Street, London, quotes the metal at fifteen shillings per pound, which is by far the lowest price at which it has ever been sold. Owing to its extreme lightness, the purchaser gets about three times as much, in bulk, for his money, as he would in buying the same weight of brass.

For mounting large prints, the *Scientific American* states that there is nothing better than a small clothes-brush. The print is pasted on the back, laid down on the mount, covered with a sheet of thin paper, and then brushed outwards from the centre. No air-bubbles remain, and there is neither straining nor distortion.

F. G. S.

Our Contemporaries at Home and Abroad.

THE *Beacon* (Chicago), in an article on "Mechanical Printing," says, "Silver printing has served its purpose, and done more than anything else in connection with the art to bring about the great popularity which it has enjoyed during the last thirty years. It came at a time when art culture was at a low ebb, at least among the great mass of the people; and by its beauty and delicacy of detail, fascinated, where breadth and true artistic effect would have fallen flat and remained unheeded. . . . The sitter, in possession of a negative, will, on examining the results of the various mechanical processes, select that which pleases him best, or is most suitable for some special purpose, and hand it to the printer with an order for such a number of copies as he may require. It is true that the processes suitable for this kind of work are, as yet, too expensive; but those who have watched the development of mechanical printing, from Talbot's earliest efforts, through all its various stages to, say, the 'tree study' by Ives' process in the March number of the *American Journal of Photography*, or the prints in the Gutekunst souvenir noticed in our last issue, cannot doubt but that something equally good and suitably cheap is but a matter of time, and in the near future." Articles: "Lantern Slides by Wet Collodion," "The Optical Lantern," "The Lights of Other Days," "How I Paint a Portrait," "Development, Quick or Slow," "Photography, Historical Sketch," etc.

Toning with platonic chloride is, according to Frank Perrins, as easy as with the more difficult to prepare platinoous salt. "All that is necessary," he says, "is to add to a slightly acidulated solution of the platonic chloride a crystal of sodium sulphite, and brush the solution over a well-washed silver print on plain paper, to bring about the immediate displacement of the silver by the platinum."

The *Photographic Times* (New York), in an article on "The Acid Fixing Bath," says, "The acid fixing bath is a solution of hyposulphite of soda to which has been added in prescribed precautions, sulphite of soda, tartaric, citric, or some other organic acid. Doctor Eder's formula directs that to one litre of freshly-prepared hypo solution, fifty c.c.m. of acid bisulphite of soda lye (a commercial article), should be added, and it is the simplest formula thus far published. His method is fast superseding the old one of fixing in pure hyposulphite of soda solutions, for it possesses many valuable advantages. . . . With the acid fixing bath this decomposition is overcome, the solution remains clear and colourless, and therefore serviceable for almost an indefinite time. The negatives fixed therein are absolutely glass clear, and as far as can be judged by present observation, the danger of a plate frilling in the hypo is reduced to a minimum. Owing to its great permanency, the acid bath is also very much cheaper than the neutral one. For reducing negatives so fixed the following bath should be used:—

Water	7 ozs.
Potass. ferric oxalate	2½ drms.
Crystallised neut. sulphite of soda	2 "
Powdered oxalic acid	from 30 to 40 grs.
Hyposulphite of soda	1½ ozs.

Articles: "Platinotype Process and its Chemistry," "Photography in an Age of Movement," "A Word on Eikonogen, Hydroquinone, and Pyrogallol," "Electro-Chemical Etching Process for Hard Metals," etc.

The *British Journal of Photography* says, "Now that the evanescence of photographs is once more to the fore, it may be

well to direct attention to the fact that a process which is beyond reproach may suffer, indeed is suffering, in reputation from the downright carelessness of its workers. This somewhat strong remark is called forth from the circumstances that we have recently seen several examples—and from different sources—of platinotypes that have become decidedly yellow in the lights within a very short time, simply from the iron not being removed after the development of the image. . . . It is quite possible by any photographic process, notwithstanding that it may be a permanent one, to produce results which will undergo a marked alteration within a brief period. Take, for example, the carbon process, which has a very high reputation for permanency. If the pigments employed for the tissue are of a fugitive character—and some are—the pictures will undergo a marked change by exposure to light; so they will if they are transferred to those kinds of paper which become discoloured by the light's action. We have seen yellowness in carbon pictures arising from a trace of the chromium salts being carelessly left in the paper through insufficient washing. Again, with bromide paper, unless a moderate amount of care is bestowed on the clearing and fixing, the pictures are liable to acquire a yellow tint as time progresses." Articles: "Wanted a Word," "Vignetting Enlargements," "The Shapes of Photographic Plates," "Gelatine and the Latent Photographic Image," "Limelight and Pressure," "Selecting a Lens," "The Mathematical Calculation of Exposures, and a New Exposure Meter," "The Latent Photographic Image," "Summer Novelties in Apparatus," etc.

The *Photographic News*, in an article on "Photographic Composition," says, "Let the photographer who is about to take a group form some clearly defined idea what his work is intended to express before he attempts to arrange its elements. This is such a plain, matter-of-fact piece of advice that its insertion would seem to be unnecessary, and so unjustifiable, were it not for the notorious fact that so many photographers sin against this, the first of the laws of composition. It were, indeed, all one for a man to attempt to paint something which he has not previously drawn, or to build a house without a scaffold. The artist must, in the first place, make his work clear to his own mind, and then it may afford intelligible interest to the minds of others. Having conceived his idea, he will arrange his characters to correspond with it. The usual plan is the reverse. He shuffles together his personages at haphazard, and if the group should turn out to be something in the nature of a circle or pyramid, the two figures chiefly affected by the ordinary photographer, he will therewith rest content." Articles: "A Photographic Exhibition in the City of London," "A Photographic Untruth," "Selecting Lens," "On Photography by the Electric Light," "Colour Sensation," "Photographic Apparatus," "The Latent Photographic Image," "Limitations in the Treatment of Subjects of Focus," etc.

The *American Amateur Photographer* gives the following methods of making and toning uranium prints:—

Brush well-sized paper with the following:

Nitrate of uranium	1 part.
Water	16 parts.

Dry in the dark. Expose under the negative until a faint image is visible. To develop the print, float on one of the following solutions according to the tone desired.

For black tones, nitrate of silver	1 part.
Water	20 parts.
For reddish-brown tones, ferri-cyanide of potassium	1 part.
Water	36 parts.

When the print is sufficiently developed it is washed in water for a short time.

For violet tones, chloride of gold	1 part.
Water	240 parts.

Articles: "Modified Collodion Emulsion," "Camera Club," "Club Sketches," "Photography as an Aid to Artists." It also gives the following: "Mr. J. Werge recommends staining a weak negative a ruddy colour by immersing it in a solution of bichromate of potash, which stains the plate all over, and gives neither fog nor local obscuration. We have often intensified negatives in a solution of yellow aniline, with uniformly good results. If a deeper tinge is desired than is at first obtained, it is an easy matter to increase the strength of the solutions. The same result is obtained by fixing and washing a number of light-struck plates and then staining them of different intensities. These screens

are to be placed over the negative after it is in the printing-frame."

Photography, in an article on "The Fading of Silver Prints," says, "But the permanency of silver prints on albumenised paper has a certain amount of claim upon us historically, because it was for a long period the only recognised printing method. The fine examples shown by Mr. J. Spiller at the Photographic Society a few weeks ago, were particularly interesting, for not one in the portfolio showed signs of deterioration. But Mr. Spiller himself, who had made them, confessed that he could not make a silver print and guarantee that it should be unchanged after two years' time. A silver print that is more than twenty years old and shows no sign of decay, is valued as a curiosity because the impression remains; but we venture to assert that in a hundred years' time, platinum prints made now will be valued solely on account of the subject, like an old engraving. So far as the permanency of silver prints affects the practice of to-day, it is purely a trade question. Among those more especially concerned it may well be asked whether it would not tend to the dignity of professional photography if the fact was much more conspicuously announced that permanent prints might be had, but that if silver prints were preferred there could be no guarantee that they would last more than a year or so." Articles: "Medical Photography," "The Glamorganshire Survey," "A Model Dry Plate Works," "A City Photographic Excursion," "The Liverpool 1891 Exhibition," etc.

The *American Lithographer and Photographer* (New York), in an article on "Chromo-Photography in the Printing Press," says, "The fact of producing a coloured illustration by means of selecting portions of a negative for printing each with a separate tint or in some parts with several tints overlaid on the same part is, of course, not new; but when any particular striking production is seen, there are naturally enough inquiries as to the means by which it has been accomplished, and as in the subject of the present notice the process is one which is scarcely known in this country, some details of it may be interesting to our readers. We gather from the annual containing the illustration, and from other sources, that the plates employed by Messrs. Wezel and Naumann, of Leipzig, are prepared as follows: Lithographic stone is partly dissolved and partly reduced to a pulp by digestion in hydrochloric and sulphuric acids. To this pulp is added a mixture of solution of asphaltum and resin and a small quantity of oil. By this means a mixture of fatty or resinous salts of lime and sulphate of lime is formed. After evaporating the excess of acid a dilute solution of soda is added, and warm zinc plates are covered with a fine spray of the mixture. The plate thus coated with a film of artificial litho-stone, is afterwards treated in the same way as an ordinary lithographic stone, except that in place of nitric or hydrochloric acid, phosphoric acid mixed with dilute gum arabic is employed. Plates thus prepared have yielded as many as 6,000 impressions." Articles: "Photo-Chemical Printing," "Photography in Germany," "Photographs in Colours," etc.

L'Amateur Photographie contains articles on "Photography and its Industrial Applications," "Experimental Study of the Phenomena known in Photography under the name of Halo," "New Magnesium Light," etc.

Revue Suisse de Photographie (Geneva) contains phototypic reproductions of a picture, "Ellena," exhibited at the last Municipal Art Exhibition in Geneva, showing the different effect in the representation of colours in ordinary and isochromatic plates. The difference in this particular case is remarkable, and no one can doubt that a far better and finer idea of the original picture is given by the isochromatic plate than by the ordinary. Articles: "Experimental Analysis of the Phenomena of Halo," "Photography at the Paris International Exhibition," "How to Avoid the Dangers of Magnesium Flash Powder," "Photography for Beginners," etc.

BRADFORD PHOT. SOC:—The usual monthly meeting of the above Society was held on the 15th inst. Mr. W. Leach read a paper on "Enlarging and Reducing." Specimen enlargements to 24 by 20 were shown, and after the paper numerous lantern slides reduced from whole-plate negatives by Mr. Leach and Mr. Scott were shown on the screen by the Society's lantern. A specially light 12 by 10 camera, made for the President, was shown, the weight of the camera being under 9 lbs. Messrs. F. Pickles and W. Wood were elected members of the Society.

Exhibitions.

NEWCASTLE PHOTOGRAPHIC EXHIBITION.

THE AWARDS.

Classes (A to Q) open to Professionals and Amateurs.

THE Gold Medal for the best three pictures in the exhibition is awarded to J. Lafayette, of Dublin, who also takes a silver medal in Class D (Protraiture)—the following being the prize-taking pictures out of twenty-three exhibits by this contributor:—Portrait of Mrs. Langtry (211), portrait of Miss Moody (213), portrait of a lady and child (215). Mr. Lafayette thus secures the highest award of the exhibition. The gold medal is awarded by the Association for the best three pictures irrespective of class. The silver medal, together with a bronze medal, is presented by Mr. J. P. Gibson, of Hexham, for a series of three portraits. The winner of the bronze medal is Mr. W. J. Byrne, Richmond, Surrey, with No. 177—three portraits "direct and untouched;" 179, six "At Home" panels representing the present Emperor of Germany at Osborne; and 180, ten "At Home" panels representing various people, taken by daylight at the sitters' residence.

The following is a list of prize-winners according to classification, excepting, of course, Class D, which has been dealt with in the preceding paragraph:—

Class A (Landscape—above whole-plate).—Silver medal, Green Brothers, Grasmere. Nos. 44, 45, 46. Views of Stybarrow Crag, Ulleswater; Blea Tarn, Langdale; and Derwentwater and Skiddaw, from above Lodore. Bronze medal, Mr. J. P. Gibson, Hexham, with "The Thaw" (18), "Autumn Haze" (21), and "September" (22).

Class B (Landscape—whole-plate and under).—Silver medal, Mr. J. P. Gibson, Hexham, with three out of a remarkable exhibit of forty-seven frames—viz., "Out for a Holiday" (65), "The Banks of Tyne" (70), and "A December Morning" (77). Bronze medal, J. E. Austin, West Court, Detling, Maidstone, with "The Last of the Ebb" (120), "Listening to the Bells" (121), and "By the Tow Path" (122). Extra bronze medal, J. G. Bullock, with "Moosehead Lake, from Kinco" (132), "On the Wawasett" (133), and "Birch Trees at Kinco" (134). Medals presented by Mr. Auty, Tynemouth.

Class C (Silver medal for best landscape printed on gelatino-bromide paper, direct or enlarged—both original, negative, and print to be the work of the exhibitor—presented by J. B. Payne, Newcastle).—Awarded to Messrs. Auty and Ruddock, Tynemouth, for view on the Irthing (175).

Class E (Best portrait printed on gelatino-bromide paper, direct or enlarged. Silver medal, presented by J. Wilson Swan, M.A., Newcastle).—Awarded to Messrs. Auty and Ruddock, Tynemouth, for "Miss Maudlin" (284).

Class F (Architecture, interior or exterior, silver medal for series of three).—Richard Keene, All Saints', Derby, for frame of six interiors of Derbyshire churches (318). Bronze medal, W. Parry, South Shields, studies of St. George's, Jesmond, Nos. 329, 330, 331.

Class G (Series of three instantaneous pictures).—In this class a silver and bronze medal were offered, but the judges award a silver medal each to W. Parry, of Shields, and Lyd. Sawyer, Newcastle, whose winning exhibits are considered equal. Mr. Parry's pictures are numbered 358, 359, and 360; Mr. Sawyer's, 370, 372, and 376.

Class H (Genre. An extra silver and an extra bronze medal are awarded in this class).—Silver medal awarded to F. Whaley, Doncaster, for "Your Turn Next, Sir!" (389). Extra silver medal—R. S. Redfield, Philadelphia, U.S.A., for "Victuals and Drink" (463). Bronze medal, W. W. Winter, Derby, for "Does Granny Like Butter?" (418). Extra bronze medal, F. M. Sutcliffe, Whitby, for "Excitement" (281).

Class J (For best enlargement—any subject except portrait).—Silver medal, T. G. Whaithe, Carlisle, for a view of "Dinant Cathedral and Market Place" (500). Bronze medal, Green Brothers, Grasmere, for "Y Tryfan and Llyn Ogwen, North Wales" (489).

Class K (Cattle studies. Silver and bronze medals, presented by the Editor of *Photography*).—Silver medal, J. E. Austin, Detling, Maidstone, for "Cooling Waters." Bronze medal, Ralph W. Robinson, Redhill, Surrey, for "Suspicious" (512).

Class L (A genre competition for the best study illustrating

verse 14, Canto I., of Scott's "Lady of the Lake," for which a bronze and a silver medal were presented by the Editor of *Amateur Photography*.—There were only three entries, and the judges made no award.

Class M (Best enlargement upon Ilford bromide paper. Gold and silver medals, presented by the Britannia Works Company).—Gold medal, W. W. Fry, Tynemouth, for view of Cullercoats Bay (539). Silver medal, H. Dudley Arnott, Gorleston, Great Yarmouth, for "Main Entrance, Somerleyton Hall" (538).

Class M M (Best series of three prints on Alpha paper. Gold and silver medals presented by the Britannia Works Co.).—Gold medal, F. W. Edwards, Peckham Rye, London, for five bas-reliefs after G. Tinworth, the well-known sculptor, and a reproduction of an old engraving, "Hector Rebuking Paris" (552, 555, 558). Silver medal, J. E. Austin, Detling, Maidstone, for "Rest and Refreshment" (550), "Waiting her Turn" (551), and "Early Spring" (552).

Lantern Slide Section (judged on the screen).—Silver medal, R. S. Redfield, Philadelphia, U.S.A., for No. 662. Bronze medal, G. W. Wilson and Co., Aberdeen, for No. 659.

Class O (Series of six instantaneous slides).—Silver medal, Henry Little, Twickenham, London, for No. 681. Bronze medal, W. Parry, South Shields, for No. 683.

Class P (Series of six architectural slides).—Silver medal, G. W. Wilson and Co., Aberdeen, for No. 696. Bronze medal, Jas. A. Sinclair, Bootle, Liverpool, for No. 694.

Class Q (Best six slides on the Mawson lantern plates. Gold and silver medals, presented by Messrs. Mawson and Swan).—Gold medal, J. E. Austin, Detling, Maidstone, for No. 700. Silver medal, W. Parry, South Shields, for No. 710. Extra silver medal, Edgar G. Lee, Cullercoats, for No. 708.

Class U (Stereoscopic slides on glass. Silver and bronze medals, presented by J. Hedley Robinson, Tynemouth).—Silver medal, H. G. Ridgway, Sunderland. Bronze medal, F. Howard, Wallingford, Berks.

Classes Open to Amateurs Only.

Class R (Series of three landscapes, half-plate or under. Silver and bronze medals, presented by Mr. Alex. S. Stevenson, J.P., Tynemouth).—Silver medal, C. Court Cole, Folley Bridge, Oxford. Bronze medal, J. W. Evans, Wolverhampton.

Class S (Series of three architectural studies, interior and exterior, half-plate or under).—Silver medal, C. R. Pancoast, Waterbury, Conn., U.S.A. Bronze medal, Ernest Beck, Sheffield.

Class T (Three instantaneous pictures, half-plate or under).—Silver medal, Ernest Beck, Sheffield. Bronze medal, Martin J. Harding, Shrewsbury.

Class V (For best landscape by an amateur member of the Association. Medals presented by the proprietors of the *AMATEUR PHOTOGRAPHER*, subject to their conditions).—Silver medal, James Brown, Newcastle-on-Tyne. Bronze medal, Geo. Proud, Newcastle-on-Tyne.

The Judges were Messrs. Paul Lange, William Lang, jun., and John W. Wade.

DEVON AND CORNWALL CAMERA CLUB.—The exhibition of members' work was held in the Athenæum, Plymouth, last week, when there were a large number of pictures on show.

LEWISHAM HIGH ROAD CAMERA CLUB.—A meeting was held on the 18th inst., at 8 p.m., at the Lecture Hall, when twenty-six names were registered as members of this newly formed club. Six of those were ladies, and it was stated that a number of the gentler sex would be likely to join now that the ice had been broken by the more courageous ones. The whole evening was occupied in framing a set of fifteen rules, and in settling other matters in connection with the formation of the club. The next meeting is to be a social one, the members bringing their friends and entertaining them with a lantern-slide exhibition, the slides being the work of the members. A large increase in the numbers is expected to take place as soon as the club is better known, which is being effected by means of circulars widely distributed. It was stated as a significant fact that nearly all the members had heard of the club through the *AMATEUR PHOTOGRAPHER*. The date of the social meeting is to be announced shortly. Mr. Alfred N. Miles, the Vice-President, occupied the chair. Communications of all kinds should be addressed to the Hon. Secretary, Mr. B. Davidson, 40, Sandbourne Road, Brockley, S.E.

"Thursday Evenings" at the Camera Club.

BY ONE OF OUR STAFF.

THE subject for discussion at the meeting of the Club last week was a most interesting one, but unfortunately the result of the discussion left the question pretty much where it was before. The title of the paper, "Amateur and Professional," justified the belief that there would be a good and somewhat warm discussion of the question whether there should be any distinction made between amateurs and professionals, but, as it turned out, that point only came into the field incidentally. Upon it, however, the members present, about forty in number, expressed an opinion that there should be no distinction made. The chair was occupied by Mr. Stroh, but unfortunately Mr. Adcock, who had prepared the paper, was confined to his room by illness, and so the Hon. Secretary, Mr. Davison, read the paper for him. Mr. Adcock pointed out that his theme for the evening was a difficult one, and affected a large number of persons. He thought they might congratulate themselves, however, upon not having to legislate, but only to discuss, and look at the different sides of the subject. He believed that the large number of amateurs now practising photography as a pastime had led the general public to imagine that enormous profits were realised by the professional. The amateurs now did so much work that there was little required of the trader. A professional, if he wished to create a large business, required good premises in crowded thoroughfares, which could not be obtained at a low rent. He also required a good manager, a good workman, two girls to retouch, two to spot, two to tone, and an attendant. That was the ordinary staff of a business, and it incurred great expense. The complaint of the trader was that employment had become so irregular and so diminished, as to make it difficult to keep separate people for special work. His sympathies in that matter were with the trader. He was confident that the trader's difficulties increased year by year, whilst his business annually diminished.

The whole subject of "amateur and professional" bristled with difficulties. If they took the case of a man whose means were small and family large—call him what they like, small trader or ought else—and that man, having time at his disposal, did some photography to increase his income, it would not, he thought, call forth complaint from the trader, because, no doubt, he would be compelled to force down his price, and also have difficulty in finding buyers. With regard to giving photographs to bazaars, he thought that the amateur should take the negative and then hand it over to the trader to print, the organisers of the bazaar paying the printing fee. He advocated amateurs and their families having their photographs taken by professionals. If amateurs took a negative of their friends, they should hand over that negative to a trader to print, thereby enabling the professional to print the photographs, and the sitter to defray that expense. Mr. Adcock had always been treated kindly by the trader, whom he highly respected. Having again urged amateurs not to damage the professional, he advised them to adopt the golden rule, "Do to others as we would have them do to us."

Mr. Pringle commenced the discussion, and said he did not think that the unpleasantness now smouldering between the two classes would ever break out into a flame. The fact was that photography could now be started on so small a capital, that very many people who had mistaken their profession had adopted it as a business. It was not right, however, that amateurs should do them any harm, but they sometimes did harm to those small traders who were unable to keep special people for retouching, and that sort of thing. Bazaars, too, he considered a great mistake, and capable of doing a great deal of harm. He concluded with a sentiment with which all genuine amateurs will cordially agree, when he expressed the hope that amateurs would do what they could to make the harm they did to small traders as little as possible. Mr. Davison then read the letter by Capt. Feilden (*AMATEUR PHOTOGRAPHER*, February 28th) with regard to the distinction between amateurs and professionals, and Mr. Webber expressed the belief that the majority of amateurs practised the art for pleasure purely, and so long as they abided by that principle there would not be much trouble between the two parties.

Dr. Patterson thought that if the work of the amateur was better than that of the small trader, the latter should be out of the way. It was a great pity that the amateur should have to stay his course for those small traders who had mistaken their calling. Mr. Davison, referring to the distinction of amateur and professional at exhibitions, expressed the opinion that there should be no difference made. If a man took up a business which could be so easily practised by others without training, he must stand the racket. The one point which he would like to emphasise was that there was absolutely no way of drawing a fair distinction between amateurs and professionals at exhibitions. The aim was that the best and most artistic work should be exhibited and gain the highest reward. He suggested that a vote should be taken as to whether the meeting was in favour of a distinction being made between amateur and professional.

Rev. F. C. Lambert objected to any difference being made between amateurs and professionals, especially at exhibitions. He thought that all work at exhibitions should be performed by the exhibitor, and that firm work should be entirely dispensed with. When firm work was admitted into exhibitions, the number of hands employed on a picture should be stated.

Mr. Tomlinson was of opinion that the best results, as a rule, were secured by the employment of two or three hands. He wished, therefore, to know whether the abolition of firm work would not lead to more work being done by one man.

Mr. Pringle said on second thoughts he came to the conclusion that all they wanted was to arrive at the greatest good that could be done to photography. To that end he would make no distinction between many-handed work and single-handed work.

The Chairman put Mr. Davison's resolution to the meeting, and it was carried unanimously.

In returning thanks to Mr. Adcock for his paper, the Chairman observed that he did not think that photography would have been at its present stage of perfection had it not been for the work of the amateur.

On Thursday, May 1st, Capt. Abney will read a paper.

Notes from the Liverpool Centre.

(From our District Editor.)

For the past few days all the talk in photographic circles here has been of the Newcastle Show, and, consequently, general photographic matters have had to take second place. The Liverpool gentlemen—and I have spoken to several—who have already visited the Tyneside exhibition are loud in praise of the exhibits and general arrangements. Regarding the Liverpool section, the utmost satisfaction is expressed with the display. The President of the Liverpool Association has come back with excellent impressions of the show as a whole, and all appertaining thereto. A few of the arrangements, however, may be improved upon in Liverpool next March.

Last Saturday another contingent of the Liverpool Society "excursioned" to Raby, and although the weather was somewhat unfavourable, a few good studies were obtained. On Saturday, May 3rd, it is intended to have an excursion to Ledsham and Burton—two picturesque resorts a few miles out of Birkenhead, on the Cheshire side. These half-day jaunts are largely patronised, and of considerable mutual help, especially to beginners in the art-science. Most of the societies in this meridian contemplate a series of excursions during the summer months, and the season, it is expected, will prove busier than ever before.

We have a statue of the late Earl of Beaconsfield in front of our St. George's Hall, and on every recurring Primrose Day the said statue is profusely wreathed and garlanded with the pretty yellow flower, placed there by Primrose habitations, dames, knights, and other admirers of the late great Conservative leader. Thousands of persons congregate in the vicinity and keep things lively all round. Mr. W. Tomkinson, Vice-President of the Liverpool Association, who, by the way, is an enthusiast at snap shots, got an admirable picture of the decorated statue last Saturday. Mr. Tomkinson is to open the Belfast Exhibition next Monday.

At Thursday's ordinary meeting at the Liverpool Rooms, Mr. J. A. Forrest is to read a paper on "The most effective Means

of preventing Light getting to the Sensitive Plate whilst it is in course of Development in the Dark-room." Afterwards Mr. Forrest is to explain "the cause of a peculiar fog that comes over lantern slide covering glass." The subject has lately created inquiry and discussion in the photographic journals, and Mr. Forrest's remarks are anticipated with much interest. In addition to the foregoing, Mr. F. Vaughan will read a paper, with demonstrations, on "Photography as applied to Letterpress Printing." The subject for practical demonstration next Wednesday is "The Printing and Toning of Silver Paper," including Obernetter and Aristotype papers. Messrs. J. MacDonald Bell and H. Wilkinson are the demonstrators.

Mr. Harry Tolley's (Notts) pictures have been sent from Liverpool to Belfast. The "Boston Slides," have not come to hand yet, though they should have been here weeks ago. The Boston Society advised their despatch from the "hub of the universe," in the early part of the year.

Formby Photographic Society.—I ran out to Formby, a village fifteen or sixteen miles from Liverpool, on Monday night to attend the ordinary meeting of the Formby Society. I found, however, that the meeting had been declared "off." But not liking the idea of a wild-goose chase, I hunted up the President of the society, Mr. R. E. Maclean, and had a pretty long chat with him. During the past few months the society has lost some of its members through removals, but the future outlook is reassuring. The membership of the society is at present between twenty and thirty, but they are not all active workers. A meeting was held last Easter Monday, and further outdoor afternoons are being arranged. The open lantern evenings are largely attended, the head-quarters of the society being at Victoria, Freshfield, a mile and a half from Formby, but only three minutes walk from Freshfield station (Lancashire and Yorkshire Railway). The social element in the society is considerable, but a few good workers are included among the members. Mr. Maclean intends "doing" Cornwall this year for a vacation.

Birkenhead Photographic Society.—Mr. W. A. Brown's paper on the "Chemistry of Photography" was most instructive and of great benefit to those who heard it. The accompanying practical experiments were also very useful, and have opened up important new ground for members. Mr. Brown, though still young, is an ardent chemist, and has prosecuted his researches in this branch of science deeply and successfully. It is felt that such papers as his are of inestimable value to photographers.

The annual outdoor competition of the Birkenhead Society, which takes place at Bidston on the last day in May, is looked forward to with much interest, and promises well. Mr. C. B. Reader, the able young Secretary of the society, means the competition to "hum," as an American member expresses it. I hear that the Wallasey Society is largely interested in the result.

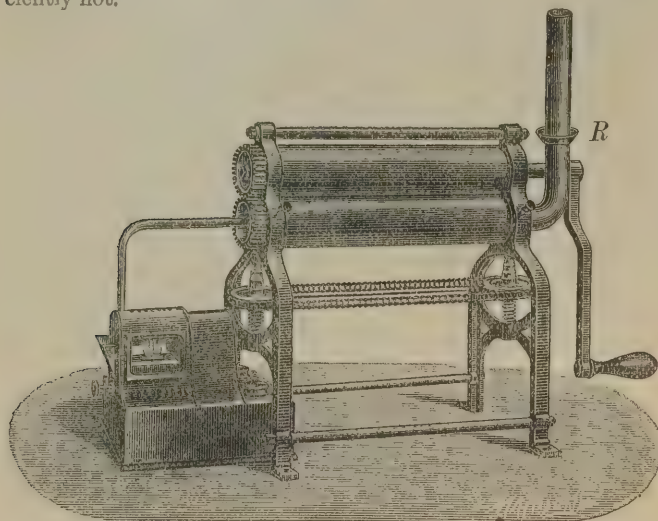
Mr. Fred Evans and Company are far advanced with the preliminaries for the Convention of Photographic Societies of Great Britain, to be held at Chester in the last week of June. Many good things will be crowded into the week's procedure, and success seems fully assured. The societies in this district, including Liverpool, Birkenhead, Liverpool University College, Wallasey, Walton, etc., I am told, will all take part in the big gathering.

LEYTONSTONE AND EPPING FOREST PHOT. SOC.—The first monthly meeting of this Society was held on the 16th inst. Mr. J. H. Phillips presided. The Secretary made a statement with regard to the prospects of the Society, and invited all gentlemen present who had not become members to do so at once. Mr. A. Whitman then read an interesting and practical paper on "Chloride of Silver Emulsion Papers," and illustrated his remarks by demonstrating the processes described. Mr. J. W. Spurgeon, the Hon. Secretary, then read a paper on "Artistic Photography," which was attentively listened to and much appreciated. After some conversation and inspection of the Society's dark-room, the meeting broke up. The Secretary announced that the next meeting would be held on Wednesday, May 7th, at 8 o'clock, when Mr. C. E. Webber would read a paper on the "Platinotype and Carbon Processes," practically demonstrating both. Visitors would be welcome with a view to membership.

Apparatus.*

THE "FERNANDE" BURNISHER.

THIS burnisher is strongly made and finished in the best style, with the result that the work it does is also good. The two rollers are so made that they will not scratch the print, and the arrangement for heating is very effective. The bottom roller is hollow, and to heat with gas the brass burner is inserted in the hollow roller, and fastened with the nut outside the chimney; an india-rubber pipe is then put on the tap; the gas-tap to be kept closed till ready. In the cup (rim) on the chimney a little spirit is poured and lit before lighting the gas, so as to draw the cold air out of the hollow roller. Dip the wick of the lighting-rod in the spirit, turn on the gas, and insert the lighting-rod underneath the brass-burner, as far as possible, and withdraw it slowly, so as to light all along the burner. In about four or five minutes the roller will be sufficiently hot.



It can also be heated by a spirit apparatus, as shown in the cut, in which case the india-rubber tube is attached to the spirit receptacle, under which a lamp is burning. This vaporises the spirit, which is lighted at the brass burner inside the lower roller. The tension is kept up by two spiral springs, the pressure on which is regulated at each end simultaneously by pulling the chain in the proper direction. The price of the 10 inch burnisher is, for spirit, £6 10s.; for gas, £6 5s. The agent for this country is C. A. Rudowsky, 3, Guildhall Chambers, E.C.

Societies' Meetings.

EAST DULWICH AND PECKHAM PHOT. SOC.:—The first annual meeting of this Society was held at 76, Peckham Rye, on Friday, April 18th. The Secretary's report was read, and the following were elected officers for the ensuing year: President, Mr. F. W. Edwards; Vice-Presidents, Mr. Maurice Howell, M.P.S., Mr. W. Rice, Dr. Munyard. The Committee consists of Messrs. Mark Boxall, Dowell, Farmer, Dowling, Fitness, Fellows, W. F. Slater, F. Webb, and Whitby; Hon. Treasurer, H. G. Banks; Hon. Secretary, S. W. Gardner. During the evening three gentlemen were elected, and nine others nominated.

HOLBORN CAMERA CLUB.—A meeting was held on the 18th inst. under the chairmanship of Mr. E. J. Wall. Mr. H. Burns was elected a member of the Club, and Mr. F. W. Hancock was proposed for membership. The subject for the evening was "Hints to Beginners," and Mr. Brocas kindly gave the necessary information, which was of an elementary character, after which Mr. Wall made a few remarks on lenses, and said that when he started photography he had to teach himself, but that now the best thing for the tyro to do was to join a club. He also stated that after three and a-half years' work, and some thousands of experiments, a friend and himself had successfully produced a printing-out paper which could be printed by gas light with an

exposure of about 45 minutes, either matt or enamel surface and any colour desired; or by simply fixing without toning a pleasing result would be obtained.

JERSEY AM. PHOT. SOC.:—An informal meeting of this Society took place on the 16th inst., at which a paper on "Photographic Printing" was read by Mr. J. H. Burcham Rogers. After carefully describing the varieties of sensitised papers in use, the operation of printing, the thorough washing required for the acetate and borax baths, the partial washing only for other baths such as the chloride of lime, the subsequent arrest of toning by an immersion in a solution of common salt and the fixing of the print, Mr. Rogers gave an account of the Godstone automatic print-washer, which he highly prized. The process of platinum printing followed, and a brief allusion was made to other papers, such as bromide, the gelatino-chlorides, Aristotype and Obernetter. A vote of thanks proposed by the President (Captain Lamb) and seconded by the Vice-President (Judge Messervy) was unanimously carried, and suitably acknowledged by the lecturer. The Committee next proceeded to the consideration of rules to regulate the admission of temporary members, the circulation of periodicals, excursions, etc. It was decided to obtain patterns for the prize certificate and with regard to the points of merit determining the award, the winning picture was to be judged (1) by artistic merit, (2) technical excellence, (3) size. On the last named point, the Secretary (Dr. H. C. Taylor) raised an objection on the ground that, if a large and a small picture were equal in merit on the first two points, the prize should be awarded to the smaller picture, as evincing more skill and labouring under a disadvantage compared with the larger one. After some discussion, in which the President said the question of size seldom if ever arose, the matter dropped. Retouching was to be allowed, but declared by the exhibitor as such. The prize picture must be taken during an excursion of the Society, may be produced by any process except stereoscopic and lantern slides, and be the work of the producer alone. Every member present at the next meeting must vote, there must be at least five competitors, equality of votes to be decided by all revoting for the two pictures, the decision of the Committee present to be final and binding in case of dispute. The next general meeting is for May 7th, and there will be an excursion (weather permitting) on May 3rd.

LEICESTER AND LEICESTERSHIRE PHOT. SOC.:—The regular monthly meeting of the Society was held on the 15th inst. It was decided to hold a meeting of the Excursions Committee to arrange the dates and places of excursions for the summer months, and to report to the next meeting. The prints sent in for competition were placed on view, and were, with general consent, considered the best the members have yet sent in; they were despatched to Mr. Brightman, 47, Vine Street, Bristol, for adjudication. A case of "Enlargements," kindly sent by the AMATEUR PHOTOGRAPHER, for exhibition at the meeting, were then sent round the table; they were of general excellence. The members who sent in prints for the competition were Messrs. Bankart, Pierpoint, Woodland, Leeder, Wilson, Joliffe, Porritt, Partridge, Cook, and Squire.

LOUTH AND DISTRICT PHOT. SOC.:—A meeting of the Louth Photographic Society was held on the 14th inst., at the residence of Mr. S. Francis Clarke, L.D.S., Ugate. In the unavoidable absence of the President, the Rev. C. W. Whistler, Captain Ranshaw was voted into the chair. The first part of the evening was occupied in discussing the merits of a large collection of landscape photographs kindly sent from London by the Editor of the AMATEUR PHOTOGRAPHER. The exhibition proved of great interest to all present, and must tend to help on landscape photography in this neighbourhood. At 7.45 the optical lantern was introduced, and about 180 prize slides were thrown upon the screen. The slides were of a sufficiently varied character to meet all tastes, comprising landscape, marine, instantaneous, street life, figure studies, home portraiture, clouds, etc. The quality and artistic merits of many of the slides met with warm approval and the exhibition proved of special interest to the Society, as two of its members (Mr. Clarence James and Mr. S. Francis Clark) has secured awards in it. The meeting terminated with a vote of thanks to the Editors of the AMATEUR PHOTOGRAPHER for the landscape pictures and *Photography* for the lantern slides. The Society is making steady progress, and arrangements are on foot for several interesting photographic excursions.

NORTH MIDDLESEX PHOT. CLUB.—The ordinary meeting was held on the 14th inst. Mr. Smith, of the Eastman Company attended to show their Kodak cameras. He said that the

* NOTE.—We are compelled to hold over notices of several novelties.—ED : AM : PHOT :

now made them in eight different forms, as the No. 1 camera, with which most were acquainted, was objected to by many on account of its small size and its giving a circular picture; the size of picture with this camera was only $2\frac{1}{2}$ inches in diameter. To meet the wishes of those whose only objection was its size, they had introduced one $8\frac{1}{2}$ inches in diameter, also one giving the ordinary quarter-plate picture another 5 by 4, and still another 7 by 5, each of these latter giving an oblong picture. He said the cameras were intended for use with their new rollable celluloid film, that in future they hoped to be able to meet the demand, as they were entitled to one-third of all manufactured in America, and were completing the enlargement of their works. In answer to a question, Mr. Smith said that the shutter worked at about one-fortieth of a second, and the speed of working might be altered by releasing the spring, which the Eastman Company were always willing to do (if taken to them) free of charge. The Secretary said there had been complaints of several markings said to arise from electrical causes; was there any probability of its always being so? Mr. Smith said there had only been one lot so marked, and it was from this, unfortunately, that Mr. Walker took those which he developed at the Camera Club, which gave rise to the idea that it might always be so, and these were taken accidentally from a stock which were known to be so damaged. A vote of thanks to Mr. Smith terminated the evening. On April 28th Mr. F. L. Pither will lecture on "Art in Photography."

PAISLEY PHOT. SOC.:—The annual meeting of this Society took place in the Committee-room of the Free Library and Museum, on the 16th inst., Mr. Donald, President, in the chair. A third prize (as recommended by the judges at the recent exhibition) in the lantern-slide class was presented to Mr. Kil-

patrick, in the shape of a finder. The Secretary (Mr. Rastall) then read his annual report, for which see PHOTOGRAPHIC SOCIETIES REPORTER. The following officers were then appointed: Hon. President, Hugh H. Smiley; President, James Reid; Vice-President, James Donald, jun.; Treasurer, Matthew Morrison; Secretary, David B. Jack (Blackhall, Paisley). Committee: Messrs. A. F. Craig, R. Ferrier, A. Kilpatrick, A. Gardner, jun., and T. Rastall. Votes of thanks to retiring officers brought the meeting to a close.

READING AM: PHOT. SOC.:—The ordinary monthly meeting was held on 16th inst., the subject being a discussion on hand-cameras. Mr. Strange sent specimen prints of the new Sepia platinotype process, which were much admired both for the tone (which can easily be varied at will) and also for the brilliancy of detail obtained. The Hon. Secretary exhibited through his optical lantern an interesting collection of slides lent by the proprietors of the AMATEUR PHOTOGRAPHER, which were a decided success, some of the slides being especially noticed. There was also shown a collection of cameras and other photographic novelties.

SHEFFIELD AND DISTRICT OPTICAL LANTERN SOCIETY.—An ordinary meeting of the above society was held at St. Paul's School-room, on April 16th. An interesting paper was read by the President, Dr. Manton, on "Instantaneous and Hand-camera Work," the best forms of cameras, lenses, shutters, plates, etc., being treated *seriatim* and very practically. The latter part of the paper was devoted to a demonstration of results of hand-camera work by means of the optical lantern. An animated discussion followed. A large supply of apparatus was exhibited. A hearty vote of thanks to the President concluded the proceedings.

To Correspondents.

THE insertion of **QUERIES** and **ANSWERS** is attended with much labour, and it is requested that the questions asked and the answers given shall be short and to the point. No charge is made.

All communications for the columns are to be addressed to The Editor, "Amateur Photographer," 1, Creed Lane, Ludgate Hill, London, E.C.

RULES

1. Write clearly and distinctly on one side of the paper only.
2. Write each Query or answer on a separate sheet of paper.
3. Write the name and address legibly on the back of each communication, and sign all Queries and Answers with name or *nom de plume*.
4. All matters for these columns MUST be received by TUESDAY MORNING'S POST.
5. The Editors do not undertake to answer questions by post.
6. In answering Queries correspondents are requested to mention, in every instance, the number and full title of the query referred to.

QUERIES.

3721. **Dorking and Gomshall.**—What is the best book (and its price) that describes the scenery round Dorking, Gomshall, Leatherhead, etc.—COCKNEY AMATEUR.
3722. **Budleigh, Salterton (South Devon).**—Is this place worth a fortnight's visit? If so, what are the photographic haunts in the neighbourhood? And how many plates could you take down with you with bringing many dozen back unexposed?—COCKNEY AMATEUR.
3723. **Animals at the Zoo.**—Will any kind reader who has taken any photograph of the animals give me his experience as to exposure, lens, plates, etc., best time, and most likely subjects?—SAXON.
3724. **Loan of Negatives.**—Will any amateur kindly lend me a few quarter-plate negatives? Will take great care of them, and pay all expenses.—W. J. HINCKLEY (address with Editor.)
3725. **Switzerland.**—Should be glad to correspond with a brother amateur, with a view to taking a short tour, June to July, this year.—BRUSH (address with Editor.)

3726. **Gravestones.**—Will someone kindly give me some information as to the best manner of photographing gravestones, tablets, etc.—H. G. W.

3727. **Finder.**—Will "Greenwood Pim" say what size and shape of lens is right for finder to use with $5\frac{1}{4}$ in. focus lens; what should I have to ask for at the optician's? Any hints how to make the finder would be very welcome.—E. J. W.

3728. **Scratched Film.**—Is there any remedy for scratched film on a dry plate.—R. PARKHOUSE.

3729. **Printing-out Paper.**—Will anyone tell me the best way to get the film off spoilt negatives; and if Tylar's "printing-out emulsion" is a good way to utilise the glass, or is there a better way?—S. C. H.

3730. **Bicycle Carrier for Camera.**—Will anyone give me the name of the maker of a good carrier for a camera to attach to a Premier safety bicycle?—S. C. H.

3731. **Large Kodaks.**—Will someone who has used the quarter-plate, or 5 by 4, Kodak kindly give his experience and opinion of it? What number of exposures does the quarter-plate size carry, and is it fitted with finders? The opinion of any amateur who has used the new flexible celluloid film would also be of interest to many readers. Is it actually as suitable for enlarging from as glass?—D. O. S.

3732. **Quarter-Plate.**—Could anybody give me their practical knowledge as to which they think the best quarter-plate camera for a beginner to start upon; and whether it would be better to get a complete set or not?—AMATEUR BEGINNER.

3733. **School of Photography.**—Is there a school of photography in or near London?—HIPPO.

3734. **Magnesium Ribbon.**—The instructions with Alpha lantern plates say: " $1\frac{1}{2}$ in. magnesium ribbon may be burnt one foot from the frame." Will someone kindly tell me the quickest means of igniting the ribbon?—W. H. B.

3735. **Tour in Normandy or Brittany.**—Which is the better place for photographic work? I purpose spending my holiday of two or three weeks in one or other, and wish to avoid the beaten track of tourists, preferring to make some village where living is cheap, a centre from which easy journeys on foot or by rail could be made to places of photographic interest.—H. O.

3736. **Xylonite Films.**—Can anyone tell me where I can obtain xylonite films coated with a print-out emulsion?—ARGENTI NITRAS.

3737. **Shutter.**—Will some brother please give opinion on Tylar's "Norden Flap" shutter?—ARGENTI NITRAS.

3738. **Carbonate of Potash or Soda.**—When carbonate of potash or soda is given in a developing formula, which is meant, bicarbonate or subcarbonate of potash or soda?—HIPPO.

3739. **Easing Bridge, Godalming.**—Could any amateur inform me of distance from Godalming; best time of day for photographing, and best spots for above? Might write me.—O. H. GRANT (Address with Editor.)

3740. **Instantograph Shutter.**—Will some of your numerous correspondents kindly tell me the

maximum speed of Lancaster's quarter-plate Instantograph shutter?—HYPO.

3741. **To Cut Plates.**—I want to cut half-plates into six pieces for small camera. Will anyone please say how I can do so without purchasing a glazier's diamond, as it would cost too much?—DIAMOND.

3742. **Rapidity of Plates.**—What is the relative rapidity (not the sensitometer numbers) of the following: Carbutt's films, Fry's films, Wratten's ordinary, and Edwards' isochromatic?—W. S. T.

3743. **Swinden and Earp's Hand Camera.**—Will anyone who uses this camera state if it works satisfactorily; also if there is ever any scratching of the film noticed, as I should think the latter would be liable to become damaged, either by the drop of the plate into the chamber or by the progressive movement forward by the springs in bringing a new plate into position.—MEDICUS.

3744. **Macclesfield, Plates at.**—Will some reader inform me where I can get plates, either Ilford or Mawson's Castle, at Macclesfield, as I am thinking of spending Whit week there.—DAVID DUDLEY.

3745. **Enlargements.**—What is the most convenient way of making bromide enlargements from Eastman's celluloid film negatives (quarter-plate)? The films are too flexible to remain flat like a glass negative when placed in the lantern.—G. W. B.

3746. **Negative Exchange Club.**—Can anyone please tell me of a negative exchange club, as I should like to join one?—W. S. HINCKLEY.

3747. **Foreign Amateurs.**—Will some brother amateur kindly inform me where to obtain Thomas' plates, etc. in Madrid, and other places in Spain and Mexico.—PRINCE DAKKAR.

3748. **Buxton.**—I shall be visiting Buxton early next month, and shall be glad to hear if anybody will allow me the use of a dark-room for changing plates, etc.; also if plates and necessary chemicals can be procured there.—W. L. F.

3749. **Detective Camera.**—Which is the best and most handy detective camera not less than quarter-plate? the proportion in prices to be taken in consideration.—E. C.

QUERIES UNANSWERED.

- Mar. 7th.—Nos. 3528, 3530, 3531, 3551, 3554, 3556.
 14th.—No. 3566.
 21st.—Nos. 3585, 3587, 3593, 3595, 3596, 3601, 3610, 3612, 3613, 3614.
 28th.—Nos. 3620, 3628, 3629, 3630, 3633, 3634, 3636, 3637, 3638, 3640, 3641, 3643, 3650, 3652, 3653.
 April 4th.—Nos. 3661, 3664, 3672, 3674, 3677.
 11th.—No. 3694.
 18th.—Nos. 3703, 3705, 3708, 3709, 3711, 3715, 3718.

ANSWERS.

3669. **Choice of Shutter.**—Try the Thornton-Pickard.—BORROWDALE YEWS.

3687. **Isochromatic Plates.**—I have copied about three dozen old portraits lately on above plates with

very fair success, they being miniatures, pastels, old water-colours, and oil-paintings, and I have not at all required a yellow screen. I believe it is very useful in copying a very cracked oil painting, but not being able to make one, and finding them rather dear to buy, I did without, as the maker assures the public it is not required. If my experience would be any use to you, I shall be very glad to give it.—DEVONIA.

3692. Want of Density in Negatives.—I use Fry's 60 plates. Give a fair exposure, according to time of day and weather. Use Thomas's hydroquinone, not their made-up formula, but that issued with their plates. Get skies black as ink, and all details coming out quite sharp. Only use alum after fixing if necessary.—PETER-PIPER.

3696. Hydroquinone (Thomas's).—If your plates show no tendency to frill during development, put them in a solution of alum, strength about 2 ozs. of alum to the pint of water, and let soak for about five minutes before and after fixing. If they frill during development, put them in this alum solution before developing and after fixing.—W. A. J. CROKE.

3698. Hydroquinone (Thomas's).—Use a weak alum bath before and after fixing. Since using the above have never had a case of frilling with Fry's, whose make I always use.—BRUSH.

3698. Hydroquinone (Thomas's).—Thoroughly soak plates, after fixing in hypo (not before), in an alum solution. Don't let this be a saturated one. If you keep your alum solution saturated, dilute it with one-fourth water. After soaking for, say, 15 minutes, remove and put into a bath made up of saturated alum solution 10 ozs., sulphuric acid $\frac{1}{2}$ oz. Leave in this bath for 1 minute, remove, and wash for 10 minutes under tap, gently rubbing the film with a flat camel-hair brush, or, which I prefer, the ball of your finger (if not horny). Every trace of hypo will then have disappeared. The last acid bath has a peculiar action upon the gelatine film, rendering it quite insoluble. In fact, I have some negatives so treated, the films of which are so hard you cannot scratch them with your finger nails. Washing negatives for 3 or 4 hours in water is absolute waste of time, when you can obtain the same result with the above method. See that your negatives are fully dense.—B. DAVIDSON.

3697. Lens.—Have a slide made the same size exactly as the one fitted to your camera. Cut out a square in this slide corresponding with the square hole in the front of the camera. Fix to this a piece of tin, funnel-shaped, tapering out about 5 inches, or the extra length of focus required, fit a piece of wood at the end of this, and arrange to screw in lens. The tin could be enamelled same colour as camera. If "Snip" will send me his address I will send him a sketch.—B. DAVIDSON.

3699. Glass Positives.—No; a substitute can be found in a negative taken on a dry plate, intensified with acidified mercury solution (saturated) until thoroughly white, well washed and backed with black. It is at any time a poor substitute for the wet-plate positive; or commence to develop with ferrous-oxalate, but just before the high-lights begin to appear, add gradually a saturated solution of hypo till a red positive image appears. Fix as usual. Well wash.—B. DAVIDSON.

3699. Glass Positives.—After developing your negative in the ordinary way, immerse in a solution of bichloride of mercury. This will change your negative into a positive.—P. K.

3700. Portraiture.—With a R.R. Wray's lens you should obtain perfect definition if you focus sharply. Some people, to obtain softness, give a turn or so to the screw, getting the picture out of focus. This is a very poor substitute for softness. The difference can be seen at a glance. Softness is produced by correct lighting, full exposure, and careful development. Don't make your negatives too dense. They should not fade away in the hypo bath. If in London, shall be pleased to develop a plate to show you. Address with Editor. If printing a large head, gum sensitised paper to bottom of negative by two strips of gummed paper, proceed with printing till image is fairly delineated, remove the back, and insert a piece of smooth tissue paper, then continue printing till finished. Beautiful effect.—B. DAVIDSON.

3701. T. Mounts.—Have you tried Fallowfield, Lower Marsh, Lambeth?—B. DAVIDSON.

3702. Public Buildings in London.—No permission is needed for public buildings that can be taken from the streets, but for such buildings as the Marble Arch, Buckingham Palace, etc., write to H. W. Primrose, H.M. Office of Works, S.W., who will send you a license to take photographic views in theroyal parks and gardens.—W. A. J. CROKE.

3702. Public Buildings in London.—No permission required to photograph these.—B. DAVIDSON.

3704. Detective Camera.—I consider McKellen's, as sold by Marion, the best. It shows image same size as it will be on the plate, and you can focus it immediately before exposing.—E.

3707. Transparency.—Expose your transparency, film to film, with an ordinary plate, about 3 ft. from gas burner. Give half the exposure that you would give a lantern plate.—P. K.

3707. Transparency.—You can do it by gaslight. Length of exposure depends upon density of transparency. Cover printing frame with a piece of fine ground-glass. If a good dense picture, using an Ilford ordinary (the best to use), hold about 2 ft. from a batswingburner, expose for 5 secs., develop

very slowly, allowing negative to gain density. If picture is thin, from 1 to 3 secs. is ample.—B. DAVIDSON.

3710. Self-Toned Paper.—Very good results can be obtained with this paper. I have some pictures printed years ago, as good as when taken. Results not as good as silver paper, but infinitely better than badly-toned silver prints. You can only obtain one colour, that is brown, but warm. I heard or read that other colours had been obtained. Ask Medland, optician, Borough High Street. I think mine was Reeves'.—B. DAVIDSON.

3712. Yellow Image.—The question is generally asked the other way round—what developer will not give a yellow image? A pyro and ammonia developer will give yellow image if development is prolonged. But the price of yellow developers is soda. Make up as follows:—

Ordinary washing soda...	... 1 lb.
Bromide potassium ...	... 36 grs.
Water ...	... 4 pints.

Use dry pyro, 2 grs. to the ounce. For developing, mix as follows:—

Water ...	... 1 oz.
Soda solution ...	... 10 minims.
Dry pyro ...	... 2 grs.

Force development, or prolong it by beginning with a smaller quantity, say 5 minims of soda solution. If you use alum bath afterwards, use it saturated, because a saturated solution will not remove so much of the yellow as will a more dilute one.—B. DAVIDSON.

3712. Yellow Image.—If by this you mean a yellow negative, the ordinary soda and pyro given in any "Year Book"—BRUSH.

3713. Borax Toning.—The borax toning bath may be used immediately after mixing.—P. K.

3713. Borax Toning.—The borax toning bath must be used soon after mixing, and can be used a great number of times; of course, gold must be added each time just before toning. An old borax bath gives better results, in my hands, than a new one.—E. J. W.

3713. Borax Toning.—No; about an hour. But you can use it almost immediately, especially if it is warm.—B. DAVIDSON.

3714. Purple-Black Tones.—Use the ordinary silver sensitised paper, and tone by means of Dr. Kibbler's lead-gold bath given a few weeks ago.—P. K.

3714. Purple-Black Tones.—The bath, not the paper, gives the required tones. Try Wood's ready sensitised with the borax bath.—BORROWDALE YEWS.

3714. Purple Black Tones.—Try Atkinson, chemist, 285, Brockley Road, Brockley. Use borax bath or acetate, but add about one drop of saturated chloride of lime solution to 10 ozs. of your bath. See also Mr. C. J. Davies's letter, page 269, AMATEUR PHOTOGRAPHER, April 18th. Have not tried it, but it looks good.—B. DAVIDSON.

3716. Developer for Ilford Plates.—When such experienced workers as T. S. Mayne and Paul Lange cannot get density with Ilford red-label plates, I think it hardly likely that "J. O. S." will manage it. Mr. Mayne advises Mawson's E.R. plates in preference to Ilford's. It is not possible to do instantaneous work in dull weather, whatever size the aperture of lens.—E. J. W.

3716. Developer for Ilford Plates.—The Special rapid always take a long time to develop. The point is to get as much detail out with as weak a developer as possible at first, then to flood with one of ordinary strength, well restrained with bromide. Their own developer is the best. If this fails, try a weak solution of their hydroquinone, with no bromide.—BRUSH.

3717. Polyglot Labels.—French: Plaque photographique sensible.—Prendre garde de n'ouvrir la boîte que dans une chambre parfaitement obscure. German: Photographische Trocken Platten.—Müssen nur in einem absolut dunkeln Zimmer geöffnet werden.—B. DAVIDSON.

3719. Rapid Lens.—The Euryscope is double the speed of rectilinear, consequently more suitable, though the depth of focus is less in the Euryscope when worked with full aperture.—E. J. W.

3719. Rapid Lens.—I think that the Optimus rapid rectilinear will suit every case of artist with double-extension camera. Cannot speak for Eury-scope, as I have not used it.—EXPERIENCE.

3720. Intensification.—Pin-holes in negatives intensified with bichloride of mercury and ammonia can be to a great extent avoided by using the following precautions:—Filter your saturated mercury solution. Keep rocking the dish whilst allowing it to deposit on the negative. Wash well. Use distilled water with the ammonia. I believe this to be most important. If you add ammonia to ordinary water (mine is the Kent Water Works Company), you will notice the appearance of a large number of minute particles of some chemical substance, and I fancy these settle on the film and cause pin-holes. To render intensification a pleasure, avoiding markings, etc., acidify your mercury solution, say $\frac{1}{2}$ oz. of sulphuric acid to 20 ozs. of the mercury solution. This neutralises any trace of hypo left in the film, and the result is a clean, bright negative, in place of a dirty, stained, uneven-printing one. If you do not require too much intensification, try the following method: After well washing (and before fixing, which you can always do in ordinary actinic light, although you will find a good many benighted

photographers are afraid to try it), put the negative in the sunlight, and let it remain there for a few hours. Then fix as usual. You will find it has increased wonderfully in density. Don't forget to wash developer off thoroughly, say for 2 or 3 minutes under tap.—B. DAVIDSON.

EDITORIAL.

NOTE.—Anyone requiring an opinion upon photographic apparatus, plates, etc., must give a number or initial for identification, as in no case will makers' names be inserted in this column.

SPECIAL NOTICE.—We are very pleased to find that replies in this column are so much appreciated, but we should be very grateful if those requiring advice would send their letters to us BEFORE TUESDAY MORNING'S post if possible. The time occupied in replying in this column is very considerable, and owing to the often late receipt of letters, many matters have to be left over each week. This we much regret.—ED : AM : PHOT.

G. N.—We shall be very pleased to have photographs suitable for our Hospital Albums, and also to criticise your work.

S. H. BRACKETT (Vermont).—Many thanks for your letter.

MISS H. BEATSON.—It is quite useless for practical purposes.

R. W. BUTTEMER.—The photographs you send of Hyères are really excellent, and the prints on matt-surface paper are extremely effective. We must compliment you upon the warm tone; they have perhaps a little too much purple in them. The slides will be very interesting, and we hope you will allow us the loan for a day or two when complete. About the Hyères pictures, it would be absurd to improve nature by putting in clouds into a cloudless sky.

O. S. R.—(1) "Experiment Photography" (Leaper), 1s.; also "Picture Making by Photography" (Robinson); both of our publishers. List of books sent you by this post. (2) The one you name is a very good one. (3) We should advise you to buy a corrugated zinc rack, and set it in vessel containing water, allowing the water from the tap to run very slowly into the vessel.

THOS. L. BUCK.—(1) In awarding the AMATEUR PHOTOGRAPHER medals, artistic treatment of subject is always the first consideration; no one printing process or size of picture stands a better chance than another. (2) The awards will be made shortly.

F. A. G.—We place the lenses in the following order: 4, 1, 6, 5, 3, 2. You will note we place your No. 2 last. No. 1 is a most useful lens, giving admirable definition. We like No. 4, which is also an English made lens, and most carefully and thoroughly corrected.

J. HARPER SCAIFE.—We will look into the matter. It is intended that the pictures shall be sent in on or before the 14th of each month. For instance, the "Instantaneous" subjects are due on or before the 14th of May. Many thanks for your concluding paragraph.

T. BRUSHFIELD.—Your query is inserted, and also your suggestion commented upon in "Our Views," about the "Travelling Studentship." Are you likely to be in town? If so, please call any Monday afternoon or Thursday morning.

DALLINGTON.—Too much foreground, figure out of place and very inelegant, selection of view fairly good, all manipulatory work very good. Your lens is of a first-class make and capable of doing the very best work.

H. R. TAYLOR.—Ordinary commercial pitch will render the tray water-tight, but we should advise careful jointing, and the outside pitched and painted.

ALFRED WATKINS.—We are having the article typed, and will forward proofs.

A. BROWN.—We know of no camera that fulfils your requirements; the nearest is the one you mention, but with it the usual dark-slides are used, it might be possible to fit a changing-box to it.

JOSEPH ROSS.—Your letter is under consideration; we will write the gentleman you name.

MELLING.—We think No. 2 the best, because the work we have seen done with it is better than with the other. They are both excellent lenses, and in capable hands the work would be equal.

W. S. L.—We cannot recommend either film. Both plates are good, but we should advise C. Afraid we are not in a position, from personal experiment, to give the relative rapidity. We find that in the "Dictionary of Photography," C are not given, and D are given as 50-100 times, but no sensitometer number is given. Your query is inserted.

MISS CRESSWELL.—Queries and answer inserted, with many thanks.

MOULLEAU.—All sizes are admitted for competition for the "Travelling Studentships."

JAS. W. DOLEY.—We are afraid we cannot help you. We at present know no one competent to write up the subject; but will keep on the look out.

A NEW READER.—We have in the press "Art of Retouching," by J. Hubert, to be published at 1s.; but it is not ready yet. Another book is published by Marion and Co., by Johnson, price 2s. 6d.

R. ATKINS.—No. 187 far too dense. No. 186 too thin. No. 184 well selected; river weeds in foreground show very prominently, and do not improve the picture. No. 185, thin, with slight halation from foliage. Studies of boys not suitable for public competition. 193 is a most unsatisfactory tone. As a whole, they are not at all up to average.

M. C. C. LUDER.—The half-plate photograph appears to us to have been vastly under-printed; the other is badly toned. You should read up the subject. Buy "Experimental Photography" (Leaper), and take care to follow directions given.

J. W. WADE.—We will write the gentleman you suggest, and are much obliged.

REGINALD H. GREEN.—Your name is added to the list for consideration.

J. BROWN.—Many thanks for letter. Shall be writing you shortly.

T. BARCLAY.—Very glad to hear of the proposed exhibition to be promoted by the Edinburgh Photographic Society.

THOMAS WIDDOP.—Thank you for list of Rambles, which we note in another column. We will write to you, and then answer the remainder of your letter.

C. V. SHADBOLT.—"Travelling Studentship" forms are being sent you by post. Many thanks for suggestions re "Monthly Competitions." We shall endeavour to act upon some of them. Very glad you are now a regular subscriber.

J. F.—We have sent your letter on to Mr. C. S. Cobb, who will probably write you.

JOSEPH W. SPURGEON.—Report in time. The paper is rather long for the *REPORTER*, so fear it will have to be cut down. As you suggest, the MS. shall be returned. We have advised our publishers about copies.

D. D.—There will be no "Prize Tour Competition" until next year. Conditions will be published in July. There are "Monthly Competitions." See announcements.

W. GLADSTONE.—The mark has certainly the appearance of flare-spot. If your diaphragms are worn and bright, the cause could probably be traced to them. We might help you better perhaps if you sent us the lens. If not, get the diaphragms blackened, and let us know the result.

COMPACT.—You want so much "compactness" that we fear there is no camera in the market that will fulfil all your requirements. A, B, C, F, S all carry a dozen plates. The best are A, B, C; none of these have double backs. Either will meet your requirements. As to lens, A, B permit of adjustment of focus, but only A has a focussing screen. For compactness, certainly A; in the improved form it has almost all you require. B you can have any make lens. We have just handled one of this make, and been much pleased with it. The focus is "set out" on a scale, and is adjustable by a lever. C, you have no means of adjusting focus. D, the makers cannot spare one for us to see. We do not advise F or G. We should prefer A, B, C. Shou d advise you in the following order, A, B, C.

T. J. H.—(1) You do not say in what counties. Some excellent articles have been published in the *AMATEUR PHOTOGRAPHER* under the heading "Holiday Resorts and Photographic Haunts." Look up last year's volumes. *b* is a good lens. *c*: It is reported so, but if you want a lens for detective work, have *b*; at least that is the most suitable that you have named.

R. S.—The hand-camera is a well-made apparatus, and like all work sold by the firm, thoroughly reliable.

T. B. B.—We should prefer B.

R. TUSON.—(1) The camera is useless. (2) If you are anything of a carpenter, you could easily fit another front to carry the lens.

FINDUS.—A is far away the best; the single combination will give you a good landscape lens. C: These lenses are very good, and cheaper than A, but they are certainly not superior.

G. W. B.—Both lenses are good value, and if price is an object, you will, we think, be quite satisfied with I. The firm you name are turning out first-class work, and you will be quite safe in buying the camera of them. We like 2 shutter, and so will you.

H. L. LANCASTER.—A, as sold, has a French lens; the instrument seems to be well made, and in competent hands answers admirably. B has some good points, but it is a very slight improvement upon B. C and D we should not advise you to go in for, they are not well finished. F is a very handy detective camera, well made, and most compact. G is beautifully made, and has recently been described by us. A has a scale and lever arrangement for setting focus; very slight liability of plate changing mechanism to go wrong; a good shutter, quite reliable. E: No arrangement for setting focus; free from any difficulty in changing plates. A poor and somewhat uncertain shutter. F: Good lens; focussing screen if desired; easy and portable changing arrangement, and to all appearances a reliable shutter. We recommend A, E, or F.

F. W. PILKINGTON.—They can be returned at any time, but we shall probably require duplicate prints for criticism, etc.

A. D. FORT.—The camera, for a cheap article, is well made, and reliable. If you get an R.R. lens you will be able to do all you at present wish to do.

CYCLIST.—The following is the rule:—Divide the

focal length of the lens by the diameter of the diaphragms. A is certainly not as good an instrument as C; the latter would be handy for cycling. B is better still for all-round work, especially *f*, which we should advise you to go in for. The finders are most useful.

KENNEBO.—Your prints are certainly quite up to average work; slightly over-orient perhaps. No. 1: Your foreground is rather wide, and the foliage on right is a doubtful improvement to the picture. No. 2 is very charming; a well broken foreground, and good distance, and over the whole, bright and crisp definition. No. 3: Again too much foreground, but a good and clear picture. No. 4: Well composed; probably a rather thin negative; printing somewhat too deep. No. 5 is over-printed, and the detail in foreground as a consequence indistinct. No. 6: Interesting, but "cut off" on left hand. You have good negatives; many of them would give you nice prints on matt-surface paper. Try squeegeeing Aristotype or Obernetter on ground-glass. Glad to see your work later on. You might, if careful in printing, enter for one of our "Monthly Competitions."

JAS. DUPIN.—We will think about the matter. Have given Enfield a line in "Our Views."

JOHN C. LIVINGSTON.—Yours is a capital letter, for which we thank you. Medals are all in hand, probably the end of next week.

E. J. TAPSON.—Two good formulae were given in this column last week. Will send you toning formula later.

S. HOLDSTOCK.—Hyde Park, and Royal Parks, Mr. H. W. Primrose, H.M. Office of Works, London, S.W. Victoria and other parks, London County Council, Spring Gardens, S.W. Wandstead Park, Sir John Monckton, Guildhall, E.C.

H. F. C.—Many workers do not object to a stained or yellow negative, which, with care, gives excellent prints. A negative clear and bright is much more difficult to print from, requiring careful exposure. There is, at least, no reason to discard a negative because it is stained. No. 1 the best, but posing in both shows want of knowledge; read up "Pictorial Effect in Photography" (Robinson). No. 1 too full face, consequently face appears flat, hands very much out of plane, are white and hard. No. 2 not sufficient gold in toning bath, consequently a bad colour. Send us some of your work in three months.

GEO. N. FELL.—Major Nott has kindly given us the following answers to your queries: Day and month? Any day except Monday—month, May and June—long focus lens, or rather one not a wide-angle. Shutter work in some instances is necessary, in others a second's exposure can be given. Light is not good enough for any animals indoors, but now and again a plate might be risked on the off chance. The more rapid the plates the better always, presuming they are of a first-rate quality. Eastman's new film is sufficiently rapid, considering it is quite as rapid (if not more so) than any plates on the market. The subjects considered interesting will depend on individual taste. Some prefer the larger animals, others the birds.

G. W. GRIFFITHS.—We hardly look at the matter in the same light. No objection has before been raised to the conditions.

W. J. HINCKLEY.—Cannot help you, have inserted as a query.

SAWBONES.—We never give names of makers. You will have a good camera in either 1 or 2, but we think you will be quite satisfied with No. 1. Lenses: No. 1 is a good instrument, and so are 2, 3, and 4. You must be guided by what you want to spend. They are all first-class, but we place them in the following order, 2, 3, 1, 4.

OXONIENSIS.—We are writing you fully re Hand Cameras. Sorry not to have had the pleasure of meeting you at the C.C. Conference.

A LADY AMATEUR.—If you do not want an expensive hand-camera, by all means "go in" for No. 1, with R.R. lens. You will find it answer your requirements; better, perhaps, than any of the others, unless you are prepared to go in for a much more expensive apparatus.

DEVONIA.—Could not give an opinion without seeing the plates; will you send them up?

RICHARD HOLDER.—If you buy your lens of the firm you name, we are certain that you will be perfectly satisfied, they sell a first-class instrument.

column, provided such apparatus, etc., is forwarded by the SELLER to him to the offices of the *AMATEUR PHOTOGRAPHER*, 1, CREED LANE, LUDGATE HILL, LONDON, E.C., free of charge. The intending BUYER to pay a fee equivalent to a commission of 2½ per cent. upon the sale price of the apparatus, etc. The publishers will undertake the packing and sending of all goods at the cost of the SELLER. As far as possible, the Editor will undertake to send a report within TWO DAYS of receipt of goods.

DEPOSITS.

Deposits for goods to be forwarded on approval may be made with our Publishers, who will hold the amounts deposited until they are satisfied that the transaction has been executed to the satisfaction of both parties. Cheques and Post Office Orders should be made payable to Hazell, Watson, and Viney, Ltd. A nominal charge of 1s. is made whether a sale is effected or not.

N.B.—Trade Advertisements cannot, under any circumstances, be inserted in this column. Such advertisements can be inserted elsewhere at the Trade Scale, which may be obtained on application to Parry and Crawford, 1, Creed Lane, Ludgate Hill, London, E.C.

"Amateur Photographer."—*AMATEUR PHOTOGRAPHER*, from September 23rd, 1887, to present (one number missing), perfectly clean; what offers?—Crommelin, Carrowdore Castle, Donaghadee, co. Down.

AMATEUR PHOTOGRAPHER, unbound, vols. 6 and 7, clean; what cash offers?—Payne, 139, Belle Vue, Shrewsbury.

Apparatus.—Good half-plate, tripod, single c.d.v. lens, and stops; would sell, 15s., or exchange anything useful.—G. Clarke, Grove Place, Saffron Walden.

Sell or exchange, quarter hand camera, complete, with six slides, 40s.; leather camera case, 10s. 6d.; quarter combination portrait lens, with diaphragms, 18s. 6d. Wanted, good quarter camera and lens.—Sanderson, 50, Victoria Road, Morley.

Photographic apparatus for sale, including toning dishes, printing frames, etc.; also a quantity of chemicals; also printing apparatus, with quantity of type.—Address, J. W. H., 2, Church Lane, Hornsey, N.

Banjo.—Perfectly new 8 guinea 5-stringed banjo, rosewood handle, veneered, inlaid engraved pearl, carved ivory pegs, 40 brackets, Rogers head, grand instrument, offers requested; cash or photographic exchange; approval; deposit.—Address, A., 5, Caroline Street, Birmingham.

Cameras.—Lancaster's Instantograph quarter-plate, with shutter and three double backs; cost 55s.; will take 35s.; almost new.—W. L. Hodge, 24, Chapel Street, Southport.

Half-plate horizontal, mahogany, leather bellows camera; price 16s.; bargain.—Gardner, 4, Arboretum Terrace, Nottingham.

Half-plate Optimus, square bellows, long-focus camera, and three slides, fitted in leather case, perfectly new, in perfect condition; offers wanted.—G., 18, Sandringham Road, Dalston.

10 by 8 Optimus camera, two double and one repeating backs, new, double extension, every improvement, waterproof case; cost £14. 7½ by 4½ camera, with G. Hare's patent automatic changing box, good condition; both cheap, cash.—Knight, Middle Street, Southsea.

Stirn's circular camera, large size, quite new; 25s.—S., 10, Burton Crescent, W.C.

Cameras, etc.—Half-plate bellows camera and enlarging lantern, condenser, view lens, carrier for quarter-plate, suit beginner, no stand, specimen enlargement shown, in polished case, complete, 16s.; also quarter Lancaster's Instanto lens and drop shutter, 10s.—Mummery, 23, Millard Road, Stoke Newington.

5 by 4 camera, Gotz's patent, central swing, revolving disc for lens, every possible movement, beautifully made, also four double backs, with carriers for quarter-plates, complete set of Eastman's patent film carriers, all newest condition; price £7 10s.—No. 54, *AMATEUR PHOTOGRAPHER* Office, 1, Creed Lane, Ludgate Hill, London, E.C.

Half-plate studio camera, two slides, portrait lens, good condition; offers.—Lawton, Bank Top, Morley.

Quarter-plate camera, swing-back, rack focus, six Blair's feather-weight slides, camera case, new, compact; 45s.—S, Midland Road, Gloucester.

Canoe.—Exchange splendid clinker-built canoe for photographic set, hand-camera, or Safety bicycle; approval.—P. F. Hayden, Graigue, Kilkenny.

Enlarging Apparatus.—Marion's enlarging apparatus, 7 in. condensers, new, cost £7, further particulars if wanted; would exchange for f/7 rapid rectilinear lens by good maker.—H. Wigan, East Malling Vicarage, near Maidstone.

Enlarging Lantern.—Optimus enlarging mahogany-body lantern, 7 in. condensers, four carriers, complete with lamp, quite new; £5; no lens.—George Potts, Chesterton Road, Cambridge.

Hand-Cameras.—Quarter detective camera, in red morocco case, three very best double backs, two finders, time or instantaneous shutter, focussing lever, can be used on tripod; 5 by 4 R.R. lens; cost £7 10s.; for £3 15s.—No. 53, *AMATEUR PHOTOGRAPHER* Office.

Sale and Exchange.

RULES.—Fourpence for twelve words or less, and a penny for every additional three words, must be enclosed with each advertisement, together with the name and address of the sender, which must be paid for, and sent to Hazell, Watson, and Viney, Ltd., 1, Creed Lane, Ludgate Hill. Halfpenny Stamps preferred. A single figure, or group of figures undivided by letter, space, stop, or words, counts as one word; compound words count as two words.

REPORTING UPON APPARATUS.—The Editor of the *AMATEUR PHOTOGRAPHER* will be pleased to report, to any intending purchaser, upon apparatus, etc., offered for sale in the "Sale and Exchange"

Kodak, in perfect order, with 50 exposures, carrying case, instructions, etc.; price 75s.—Rev. Atkins, Normandy, Guildford.

Kodak detective camera, equal new; cost 105s.; price 70s.—Bygrave, 15, Canterbury Road, Brixton, S.W.

Demon detective camera, nearly new; 3s. — W. Shepard, 19, Surrey Street, Derby.

Kodak detective camera, equal new; cost 105s.; price 70s. lowest. — Bygrave, 15, Canterbury Road, Brixton, S.W.

Kodak, hardly used; £2 18s. — Ellis, 7, Park Village West, N.W.

Stirn's detective camera and circular printing frame, nearly new, plated, samples sent; £1.—L., 4, Victoria Terrace, Ryde, I.W.

Hand-camera, quarter-plate, in leather case, six slides, in leather case, good condition, gives splendid results; what offers? — L. Lawton, Bank Top, Morley, near Leeds.

Facile hand-camera, rectilinear lens, finder, as new; £3 6s.—Ruddock, 59, Plantaganet Street, Cardiff.

Diamond hand-camera (Talbot and Bamar), new; 21s. Wanted, half-plate second-hand printing frames. — Arthur, 87, Augustine's Road, N.W.

Lantern.—Lantern, 4 in. condensers, portrait lens, rackwork, three-wick lamp, safety jet, and instantaneous carrier; 40s.—C. Naylor, Batley.

Lenses.—Sands and Hunter's quarter-plate rapid rectilinear lens; 25s. 6d.; cost £2.—J. M. Butler, 33, Dorset Street, Baker Street, W.

Lens, plano-convex, for half-plate camera, cheap. — Griffiths, Spencer Street, Carlisle.

Half-plate Voigtlander Euryscope lens, excellent condition; 83s. — Bygrave, 15, Canterbury Road, Brixton, S.W.

Portrait lens, 5 by 4 (by Emil Beusch), Waterhouse diaphragms; 35s.—Brett, 14, Regina Road, N.

Taylor's 5 in. detective lens, Iris diaphragm, covers a half-plate; cost £3 17s. fortnight ago; sell for £3 10s.—54, Chesham Road, Tottenham.

Lancaster's half-plate Instantograph lens, Iris diaphragms, 20s.; also quarter-plate ditto, revolving diaphragms, 10s., with Lancaster's shutters. — A. J. Hendrie, Thornwood, Uddingston, N.B.

Optimus 7 by 5 rapid rectilinear; 40s., perfect.—Bennett, 43, Avenell Road, Highbury, N.

Lenses, etc. — Optimus 7 by 5 rapid rectilinear lens, new, perfect condition, 35s.; also shutter for same, 10s. — Arden, 28, Mount View Road, Stroud Green, London.

Dallmeyer's whole-plate rectilinear landscape lens, £4 18s.; Thornton-Pickard time shutter, fit above or 2½ in. hood, 17s. 6d.; both new.—Graham, Chemist, Stockton.

Cabinet portrait lens (by Sands and Hunter), cost 63s. last year, price 20s., excellent definition; Wray's half-plate R.R. lens, used twice, 55s.; half-plate Instantograph tripod, 3s. — 75, Smedley Road, Cheetam, Manchester.

Lever Watch.—Will exchange good silver lever watch, quite new, cost £2, with warranty, for Instantograph quarter set, or any good quarter set.—W. Brett, 9, Bulgaria Street, Armley, Leeds.

Microscopic Slides.—Will exchange pathological

microscopic slides (by Cole) for good lantern slides. — Becher, 15, Jermyn Street.

Printing Press.—New printing press, 34 letters, complete; 3s. 6d.; carriage paid.—Thomas Milburn, Babbie Hill, Hexham, Northumberland.

Sets. — Underwood's 1888 Instanto camera, dark-slide, tripod, R.R. lens; cost 5 guineas; bargain, 70s.; new.—Slade, Slad Road, Stroud, Glos.

Lancaster's whole-plate camera, two double backs, dark-slides, strong tripod and case, also splendid Eureka lens; price £5.—Tunstall, Amateur Photographic Association, 3, Lord Street, Liverpool.

Half-plate, Perken and Rayment's camera and lens, with one double dark slide, one printing frame, and two developing dishes, in wood cabinet, also folding tripod; cost £6 6s., what offers in cash? Willing to have Editor's report on apparatus.—Charles Holworthy, 46, Widmore Road, Bromley, Kent.

Quarter-plate Instantograph 1886, lens, shutter, two double backs, case, and tripod stand (new make), camera much used, but in good working order; 25s., or what offers.—E. Harrison, Rossendale Lodge, Streatham Hill.

Quarter Instantograph set complete, three double backs, with cases for camera and tripod; I will exchange the above for half-plate, with a little money; approval.—J. Ward, 74, Love Lane, Heaton Norris, Stockport.

Camera, 7½ by 5, Watson's Tourist model, swing back, sliding front, three double slides, leather-cases, tripod, legs, etc.; £5, cost £12, or will exchange for value in whole-plate long focus landscape lens, stereo lenses.—Tresilian, 31, Lower Sackville Street, Dublin.

First-class half-plate camera, double backs, R.R. lens, and tripod.—Ridgway, 1, Sparrow Corner, Minories.

Lancaster's quarter International set, complete; price 34s., cash.—189, Southampton Street, Reading.

Lancaster's whole-plate Instantograph lens and shutter, Burr's carte-de-visite lens, sliding body camera, and ash tripod, Ross' compound stereo lens; the lot £5 10s., or exchange for Safety bicycle, or pony trap.—W. Humphrey, St. Osyth, Essex.

Capital quarter-plate camera, three double slides, tripod, Optimus R.R. lens, all perfect, new last season; 55s.—Address, A., 5, Caroline Street, Birmingham.

Sets, etc.—Quarter-plate camera, two double backs, lens, and tripod, suit a beginner; price 21s. Also about fifty numbers of AMATEUR PHOTOGRAPHER; price 5s.—David Dudley, 7, Hutchinson Street, Widnes.

Stand, etc.—Kennet's guinea half-plate stand, little used; 10s. Two volumes, cloth, AMATEUR PHOTOGRAPHER (VI., VII.); 7s.—Kemp, 17, Gladstone Terrace, Edinburgh.

WANTED.

Book, etc. — Dr. Eder's book on "Modern Dry-Plates; also a pneumatic plate-holder. — S., 22, Bagby Road, Leeds.

Cameras. — Half-plate Instantograph camera, with slides and stand, good condition, cheap, for cash.—Sinclair, 29, Well Street, Paisley.

Quarter-plate camera.—State make and price to S. Kirkham, Court Place, Carlisle.

Half-plate Underwood's Instanto, with lens, good condition and cheap; approval. — G. Gosling, Ashbourne Lodge, Lausanne Road, Hornsey, N.

Camera and Lens.—Half-plate camera, modern make, three double backs, and Optimus or Optimus Euryscope lens. — Viney, 1, Creed Lane, Ludgate Hill, E.C.

Camera Cases.—Half-plate camera case, cheap.—R. B., 5, Nassington Road, Hampstead.

Leather camera case, whole-plate, or leather bag, about 18 by 12 by 8. — Whitcliffe, 12, North Street, Burnley.

Dark-Slides.—Two quarter-plate dark-slides, to fit Lancaster's International camera.—Smedley, 25, Calvert Street, Derby.

Enlarging Lantern.—Two enlarging lanterns, 7 or 5 in. condensers, Lancaster's or other make.—Particulars, price to W. N. Worran, 8, Abney Park Terrace, Stamford Hill.

Hand-Cameras.—Abraham's Ideal or Fallowfield's Facile.—Bentley, Acacia Villa, Leicester Road, New Barnet.

Detective camera.—Particulars and lowest price to A. D. Clarke, Pailton, Rugby.

Lamp.—Lancaster's Rubralux lamp, good condition, and cheap.—Rev. E. Page, Torquay.

Lens. — Rapid rectilinear lens, half-plate, English maker.—Percy Gieve, Dore, Derbyshire.

Photographic Quarterly.—PHOTOGRAPHIC QUARTERLY, No. 1.—437, St. Helen's Road, Daubhill, Bolton.

Safety.—A rear-driver Safety bicycle, good and cheap.—J. Jones, Aberleine, Newcastle-Emlyn.

Shutter.—20 ft Optimus quarter-plate lens, Kershaw or Thornton-Pickard type; will give in exchange very good single lens and shutter.—Wilton, 11, Hall Grove, Leeds.

Tripod.—Whole-plate portable tripod, cheap.—John Wilson, Altmere Street, Glenarm, Belfast.

PLEASURE CRUISES TO THE LAND OF
the MIDNIGHT SUN.—THE ORIENT COMPANIES' steamships GARONNE (3,876 tons) and CHIMBORAZO (3,847 tons) will make a series of TRIPS TO NORWAY during the season, visiting the finest fjords. The dates of departure from London will be as follows, and from Leith two days later:—
June 4th, for 15 days | July 15th, for 15 days
June 18th, for 27 days | July 23rd, for 27 days
June 25th, for 15 days | Aug. 8th, for 21 days
The steamers will be navigated through the "Inner lead"—i.e., inside the fringe of islands off the coast of Norway—thus securing smooth water; those of the 18th June and 23rd July will proceed to the North Cape, where the sun may be seen above the horizon at midnight. The Garonne and Chimborazo are fitted with electric light, hot and cold baths, etc. Cuisine of the highest order. A

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PUBLISHING DEPARTMENT.—All letters containing Subscriptions, Orders, Remittances, SALE AND EXCHANGE Advertisements, or other business matters for the Amateur Photographer are to be addressed to the Publishers, HAZELL, WATSON, AND VINEY, LD., 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

NOTE.—SALE AND EXCHANGE Advertisements, at the charge of Three Words for One Penny, can be received as late as WEDNESDAY MORNING.

ADVERTISEMENT DEPARTMENT.—All communications respecting TRADE Advertisements in the Amateur Photographer are to be addressed to PARRY AND CRAWFORD, 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

NOTE.—Trade Advertisements are received up to Tuesday morning.

EDITORIAL DEPARTMENT.—All Literary Contributions, Queries and Answers, Photographs for Competition or Criticism, Books or Apparatus for Notice or Review are to be addressed to the Editor, Amateur Photographer, 4, Creed Lane, Ludgate Hill, London, E.C.

NOTE.—To ensure insertion all Communications should reach the Editor on Tuesday.

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Vol. XI. No. 291.]

FRIDAY, MAY 2, 1890.

[PRICE TWOPENCE.]

✿ OUR VIEWS. ✿

To hold as 'twere the mirror up to nature."—*Shakespeare.*

THE annual report of the proceedings of the Photographic Club for 1889 contains much valuable information. The Club possesses a very complete library, many of the books being very scarce.

* * * *

EVERY one is now talking of the Liverpool Exhibition, and we devote a leader to the subject. It is gratifying to us to find that, although there is to be no distinction made between amateur and professional, the AMATEUR PHOTOGRAPHER conditions—which provide that the photograph must be the entire work of the exhibitor, posing, selection of subject, exposure, development, retouching, printing, and toning—are to be strictly adhered to; and also that no picture which has previously been exhibited will be allowed to compete. From time to time we shall notice the progress being made by the Executive, and are sure that in Mr. Thomas Mayne, the Hon. Secretary, the Association have the right man in the right place.

* * * *

THE Lantern Society held their inaugural meeting last week; there was a large attendance. A report of the proceedings will be found in another column. This Society will add much to the entertainment of those interested in photography, and the public, during next winter. Active work will be commenced in October, and Lieut. C. E. Gladstone will be pleased to hear from intending members.

* * * *

IN a recent breach of promise case, *Colvin v. Leyland*, the following discussion took place upon the power to photograph:

The plaintiff had made an affidavit, in which she mentioned two letters of the defendants and a photograph; and the defendant had obtained an order that he should be allowed to take photographs of the letters and the photograph, from which order the plaintiff appealed.

Mr. Ruble appeared on her behalf, and urged that there was no power to order photographs of letters.

Mr. Justice Mathew: They are only copies, and copies by way of facsimile.

Lord Coleridge: What on earth is the use of appealing against such an order?—

What is the use of photographs of the letters?—Lord Coleridge: There may be a question as to the handwriting?

Why should the photograph be photographed?—Lord Coleridge: It may be desired to show that it is not a photograph of the defendant. It may be a photograph of somebody else?

Why should such an order be made?—Lord Coleridge: Really, it is almost enough to make one lose one's temper to find such an order appealed against. Why in the name of common sense, should it not be made?

The plaintiff's solicitor says that the letters do not refer to the promise and are in no way material.—Mr. Justice Mathew: But the defendant may think them very material.

Lord Coleridge: You appear to think them material, or why do you appeal?

The rule does not mention photographs.—Mr. Justice Mathew: They are really copies.

The Court without calling upon them, dismissed the appeal with costs.

* * * *

As promised, we commence the publication of the list of towns where "dark-rooms" have been placed at our disposal. In this list we shall include no town unless the owner has filled up our form. We shall, of course, gladly forward a form to anyone kind enough to extend to us the privilege of introducing photographers. It will be noted that owners may be amateurs, dealers, or professional photographers, hotel-keepers, or photographic societies. In the latter case we strongly counsel the executive of societies to permit temporary membership for a nominal fee of, say, 2s. 6d. per month. Temporary membership is permitted by the Bath and the Southsea Societies. This week we have delighted a gentleman visiting Bath, by informing him that he can secure the privileges of membership for so small a sum. This year we are able to give applicants for "dark-rooms" much information, and the letter of introduction will, in some cases, set out particulars of the four divisions or classes of accommodation. We hope to extend the work to the Continent, and in this connection we cannot refrain from calling attention to the very useful information given in the May number of *Photographic Scraps* upon "Continental Photography." Anyone going

For Contents, Notices, etc., see page 325.

on the Continent should secure a copy of *Scraps*. In addition to giving the names of dealers, in every instance the correct wording, in the language of the country, is given to be written on boxes of dry plates to advise the authorities of the dangers of exposing to daylight. Mr. Howson is to be congratulated upon the admirable result of what must have been a difficult task.

* * * *

MR. D. R. CLARK, of Glasgow, has been successful at Glasgow, where he has been awarded the AMATEUR PHOTOGRAPHER Silver Medal for the most artistic picture in the Exhibition for the "Trysting Tree," and at Belfast he has also taken honours. A very excellent reproduction in collotype of one of Mr. Clark's photographs, an interior, "The Mosque of Sultan Achmet," is published in the April number of the *Art Review*. Mr. Clark thus describes how he was enabled to accomplish the very difficult task of photographing the interior of a mosque:—

"Having my camera with me when in Constantinople, I was determined that if possible I should carry away with me, amongst other negatives, one at least of the interior of the Mosque of Sultan Achmet. The first time I visited it, I proposed to one of the attendants, through my interpreter, to ask permission of the chief Imam to photograph the interior. This, I was told, had never been done; it was impossible. I suggested that a gift of money to the funds of the Mosque might be a means of doing good, while at the same time I might be able to show to my countrymen what splendid architects the Turks were. Knowing too, by this time, something of Eastern bargaining, I began by offering one medjideh, and suggested a possible half more; but these overtures were rejected with scorn. Two days later I returned armed with the camera, which I judiciously left outside, and began again to try the virtues of *bakshish*.

"Would not one medjideh do?" I asked.

"No!"

"Would two do, then?"

"No!"

"Well, how much?"

"The attendant would see the Imam again, he said. We waited, and at last he returned saying five medjidehs should be the price.

"Ha! ha!" I thought, "I have you now!" And then came the bargaining—a species of Dutch auction on his part and regrets on mine—ending in the triumphant entrance of myself and camera at a cost of three medjidehs. I was told to hurry in by a little side door, and to keep quiet, and beside one of the huge sheltering pillars I erected the tripod, and thus from the gallery above photographed the interior of the beautiful Mosque of Sultan Achmet."

* * * *

THE Committee of the Camera Club announce that they have arranged to exhibit the photographs taken by the late Mrs. Julia Cameron. The Exhibition will be opened on Monday the 5th of May, and will probably remain open for two months. The exhibition is free on presentation of visiting card.

* * * *

THE claims of the AMATEUR PHOTOGRAPHER to be recognised as an art journal are now conceded by almost all, but it is not generally known that the "Galleries" are kind enough to send us invitations for Press views, and that this year such invitation has been received from the Council of the Royal Academy. We hope each week during the season to devote some space to a review of one or other of the "Galleries," and shall call special attention to those works which teach a lesson to photographers, and to the pictures whose authors could learn a lesson from photography.

WE understand that it is intended to form a photographic club in connection with the Birkenhead Y.M.C.A. A preliminary meeting will be held on Saturday, and those wishing to join are asked to send their names to Mr. F. R. Kay, 42, Conway Street, Birkenhead.

* * * *

UPON the occasion of the meeting of the Lens Standard Committee of the Photographic Convention of the United Kingdom on the 25th ult., the following resolution was passed: "That this meeting recommends that a meeting be called of as influential a body as possible of manufacturing opticians, to decide upon the most convenient series of sizes for standard flanges and camera screws, that shall be most suited to meet existing conditions of their manufacture. These standard flanges, at present, to be limited in number, and, when decided, to report to the Committee of the Photographic Convention of the United Kingdom. It is also suggested that the question of means for their adoption be decided upon." The meeting was adjourned until the 9th May, 1890, and will be held at the Mona Hotel, at 7 p.m.

* * * *

THE Photophane, Limited, advise us that they intend to keep their list open for a few days, in order to give the trades interested in photographic reproductions an opportunity of taking up shares. Our opinion of the Company's prospects was given in last week's issue.

* * * *

PHOTOGRAPHS AT NEWCASTLE.

FOLLOWING up our comments made by us last week upon the Exhibition, we will take Class E (Portraits on Gelatino-Bromide Paper), a small class with only six exhibitors. The silver medal goes to Messrs. Auty and Ruddock for a very much worked-up portrait, "Miss Maudlin." Mr. H. J. Tear shows two very fair pictures in "Dorothy" and "Galatea." Mr. Welford "Miss Pert," which is a colourable copy of a picture with the same title to be found in Mr. Lyd. Sawyer's reception room. Of Mr. Sawyer's productions we much prefer "The Spring Time of Life."

The "Architecture" Class is larger, and contains some good work. Mr. R. Keene (Derby) takes a silver medal for "Six Interiors of Derbyshire Churches," which are certainly very fine, but we prefer the work of Mr. W. Parry, who is awarded a bronze medal for three views of "St. George's Church, Jesmond." These views are on Whatman paper, sensitised by the ammonia-nitrate bath; the warm tone and matt surface are peculiarly suited to the subject. Mr. J. Pike shows two views of Newcastle Cathedral, one of Durham, and another of the interior of the *Newcastle Chronicle* offices, all well and carefully executed. A very excellent subject, well and boldly treated, is "The Tower of London," by Mr. F. W. Edwards. Mr. Gibson does not take honours in this class, but, in our opinion, his picture "Bamborough Castle," is equal, if not superior, to any exhibited. Mr. Sawyer shows three views of "Castle Garth," which have been seen before by many of us.

In the "Instantaneous Class," the silver medal is awarded to Mr. Parry, and richly deserved. His "S.S. Courier," "S.S. Planet" and "H.M.S. Victoria" show splendid work. Mr. Sawyer is also awarded a silver medal of equal value

for his "On the River Tyne," "Foggy Weather," and the "Penny Ferry," all of which have been reviewed in the AMATEUR PHOTOGRAPHER, and received recognition at other exhibitions. The yacht studies of Messrs. G. West and Sons as usual attract much attention. Mr. W. P. Marsh sends his "Sea Studies," which are full of life and vigour. Mr. J. E. Dumont, an American amateur and AMATEUR PHOTOGRAPHER medallist, sends three pictures, of which the best is "With Favouring Winds o'er Sunlit Seas." "Stranded" we have never cared for. It was, if we remember rightly, reproduced as a supplement in the *Photographic Times*, of New York. The negative is probably a thin one, and the photograph sent is too deeply printed. Mr. R. S. Redfield, also an American, sends "Crackers and Milk," "Making Friends," and "Feeding the Chickens," all simple subjects admirably handled. Messrs. Auty and Ruddock again contribute several pictures, of which the best is "A Hazy Morning."

Class H, "Genre," has a large number of entries and many *very old* friends. The silver medal is awarded to one, "Your Turn Next," by Mr. F. Whaley, a stagey, unreal piece of composition. An extra silver medal is given to another well-known picture, Redfield's "Victuals and Drink." A bronze medal goes to Mr. Winter's well-known picture, "Does Granny Like Butter?" and the extra bronze medal to Mr. Sutcliffe for "Excitement," which has been shown repeatedly under, we think, another title. The judges in this class evidently worked upon "public form," and upon the principle that as the pictures had all been medalled, they were safe in awarding them other medals. Mr. Byrne shows two dreadful pictures in "The Village Artist (Youth)" and "The Town Artist (Experience)," both stated to be direct and untouched. The composition is stiff and stagey, the figures much too large for the plate, and the whole a failure, neither of them having the slightest claim to be called pictures. Another failure by the same artist (?) is "The Poor Crossing Sweeper." Mr. R. W. Robinson sends "The Pedlar," in which he introduces too many figures, all of whom are unoccupied, and not interested in the pedlar's ware, but sensible of the fact that they are making up the picture. Mr. Sutcliffe exhibits a picture which he is pleased to title "The Rake's Progress," a charming study, but it might better be called "Slow Progress of a Hay Rake." The title is distinctly bad. Hogarth's pictures have stamped the "rake" a dissolute fellow, but in Sutcliffe's picture both man and woman are the very quintessence of trusting simplicity. Mr. J. W. Beaufort, a very capable photographer, abuses his power in "Go, thou must play alone, my boy; thy sister is in heaven," a *supposed* death-bed scene, which, in our opinion, is a prostitution of photography, and most revolting. Both Mr. Austin and Mr. Keighley show their well-known genre studies. Mr. B. G. Wilkinson also sends his picture "Prawning." Mr. C. Smerdon Roe contributes several pictures, including "The Old Ferry," which was awarded the AMATEUR PHOTOGRAPHER medal at the Champion Exhibition in Bond Street. Mr. H. P. Robinson exhibits "A Gossip on the Beach," but, like many other good things in the Exhibition, it was passed over by the judges.

Messrs. Green Bros., take the bronze medal for Enlargements, and Mr. T. G. Whaite the silver. Messrs. Faulks and Kitchin send their usual consignment of

pictures, some of which are very good, and have received recognition.

In Cattle Studies, Mr. Austin takes a silver medal with "Cooling Waters," and Mr. R. W. Robinson the bronze with "Suspicious," a very capital picture. No other picture in this class has call for comment.

Prizes were offered for Enlargements on Ilford bromide paper, and the gold medal was awarded to Mr. W. W. Fry for "Cullercoats Bay," a very poorly composed picture, very hard and with but little call for special notice. The gold medal ought not to have been awarded. The silver medal is best deserved by Mr. H. Dudley Arnott's "Somerleyton Hall."

In the class for prints on Alpha Paper, in which there are only five exhibitors, the gold medal is taken by Mr. F. W. Edwards, who sends four frames containing chiefly copies of paintings or engravings. The silver medal is awarded to Mr. Austin for "Rest and Refreshment," "Waiting her Turn," and "Early Spring."

The Amateur Section is extremely poor. Mr. C. Court Cole takes a silver medal in Landscape (half-plate and under), for three charming compositions, but which, in our opinion, is too deeply printed to secure the true values. Mr. J. W. Evans secures the bronze medal with three "Hoar-frost Studies"—old friends, we think, and which have already received distinction.

In Architecture, Mr. C. R. Pancoast takes the silver medal for his views of the Calcutta Exhibition, 1883. The catalogue says this may, of course, be a misprint, but if it is correct, our American friend is harking back a long way to give we poor Englishmen a chance of admiring his photographic ability. Why he should have had the medal at all, except that he is a "stranger," passes our comprehension. Any of the other exhibits are as good, and those sent by Mr. Ernest Beck, and awarded the *bronze* medal, are better.

Mr. Ernest Beck takes a silver medal in the Instantaneous Class for his very beautiful picture "Beating In." Mr. Martin J. Harding sends a frame of his charming hand-camera slides on the "North Wales Coast," and receives a bronze medal. In this class Mr. George Proud sends a well-chosen picture, "Hay-time," Mr. A. W. Gottlieb has several pretty and effective studies, and Mr. W. S. Corder a good picture in "Genoa Harbour."

The class confined to amateur members of the Association, in which the medals awarded are from the AMATEUR PHOTOGRAPHER, must be considered a failure, only eight members entered the competition. The silver medal is awarded to Mr. J. Brown for "View near Mitford," and the bronze medal to Mr. George Proud for three views in Jesmond Dene.

Summing up, we find that at the Exhibition practically all the medals have gone to previously medalled work; that hardly any new work is shown; that in the mixed classes only amateurs who are medallists have competed; and that in the amateur section hardly any amateurs of standing sent pictures.

As a show of photographs, the Newcastle Exhibition is a pronounced success, as advancing photography by the exhibition of new work, it is a distinct failure; for, with the exception of the charming work of Mr. Gibson (Hexham), there is hardly a picture of any merit that has not been exhibited before.

THE DUDLEY ART GALLERY.

In looking through the collection of pictures now being exhibited at the Dudley Art Gallery, a feeling is borne in upon the mind that the photographer has, for some reason or other, more fraternity of sympathy with the water-colour sketcher than with the painter in oils. Perhaps this is because the water-colour artist has greater facilities for rapidly dealing with the infinite moods of Nature's beauty in the very sanctuaries of her presence. However that may be, the photographer will often find himself more in accord with the smaller and more delicate-toned water-colour than with the larger and more assertive oil painting. This is specially true of the Dudley Art Society's work, which consists for the most part of landscapes and similar purely outdoor studies.

Entering the Gallery, we first notice Mr. Fred Burgess' No. 2; this artist is too inclined to ring the changes on the Thames between Batterse and Westminster and the lagoons of Venice, yet, notwithstanding the divergent characteristics of the two subjects, he achieves in both no small measure of success, and it is most instructive to compare No. 2 with No. 30, both carefully thought out subjects. For street treatment, No. 38 is noticeable. No. 7, "A Good Catch," by Miss Kate Macaulay, is a very taking picture; the composition is truthful, and the landed fish in the foreground are excellently well rendered, but its peculiar charm lies in the painting of the sea just underneath the boat's keel, conveying as it does an accurate impression of that clear deepness of colour so noticeable on coasts where there is an abrupt plunge into deep water from a shelving pebble beach. It is, however, a little disappointing to find this clever artist repeating the identical effect in three other sketches (Nos. 156, 160, and 161), so that we begin to think that, after all, it is but a "trick of the brush," and, indeed, to see an artist repeating himself or herself shows a failure to appreciate the fact that the "truths of nature are one eternal change—one infinite variety." Mr. W. H. V. Cobbett is another sinner in this respect, for there is at least one duplicate here of a Venetian sketch which has already been shown in the Gallery of the Royal Society of British Artists. We will hope that this exhibition of the same work at different galleries is not a lesson that painters have learnt from certain of our successful artist-photographers, and, for the advantage of both, we would quote the words of one who on art matters is universally regarded as an authority; he says, "All repetition is degradation of the art; it reduces it from head-work to hand-work, and indicates something like a persuasion on the part of the artist that nature is exhaustible, or art perfectible; perhaps even by him exhausted and perfected. All copyists are contemptible, but the copyist of himself the most so, for he has the worst original."

We cannot help feeling vexed at the treatment of the interior of St. Stephen's Church, Walbrook (No. 40); the rendering of the columns in the foreground is very clumsy, and the perspective defective. No. 58 is another crooked architectural piece. There seems to us no excuse for artists being guilty of such errors.

Mr. Nibb's pictures (Nos. 11, 31, 66, and 129) show a great similarity of colour treatment, so much so that they become slightly monotonous, and convey the impression that the artist is inclined to render Nature as he thinks she *ought* to look. There is a point beyond which individuality should not go, and that point is reached when

personal idiosyncrasy begins to interfere with truthfulness.

There are a considerable number of pictures of Dutch scenery exhibited. The canals, quays, and barges of Holland afford much scope for artistic treatment, and by photographers have not yet been much utilised; it is a country so easily accessible that many an amateur with a fortnight's holiday, and with Percy Lindley's handy little book "Walks in Holland" in his pocket, might procure a series of delightful little "bits" of Amsterdam, Dordrecht, and the dead cities of the Zuyder Zee, besides educating his artistic taste by a study of the Old Masters at the Hague Gallery.

Mr. Rupert Stevens' "Lazy Scheldt" (170) gives a good notion of the charms of Dutch waterways. It is easy to imagine the artist, sitting in one of the slowly-moving barges, painting those that follow in its wake as they idly drift down-stream. No. 94, "By the River," is a splendid piece of water-colour painting, very different in character indeed from No. 170, but carrying the same subtle conviction of truthfulness. No. 121 is also good, and it is interesting to compare it with 219, and note the different methods of the two artists in the treatment of similar scenes.

Mr. O'Brien is the President of the Royal Canadian Academy. He has sent some fine sketches of North American scenery. Nos. 52, 27, and 74 are all worth studying. In No. 226 there seems something wrong with the perspective; the ship and the tug that are making their way into the harbour seem far too small, considering the distance they appear to be from the spectator.

Of sea pieces, No. 76, "Mid Channel," by Mr. Aldridge, is full of life; but Mr. David Green, a rising young artist, exhibits something better in No. 147, a fine bit of sea-painting. No. 118, by the same artist, shows his versatility. No. 212, "Night's Shadows Falling," by Miss Helen O'Hara, is a most creditable piece of work, showing angry waves beating in foam against the shore; the introduction of a piece of broken breakwater tells its own tale, and the rendering of the sky is not less successful than the lighting of the sea in conveying the idea expressed in the title.

The President (Mr. Walter Severn) shows three thoroughly good pictures, Nos. 163, 134, and 331. In the first he has well realised the clear, bright atmosphere of the Riviera, and in 331 the painting of the clouds on the hillside is admirable.

Mr. Fullwood has original ideas as to colouring; his best pieces are Nos. 120 and 122. To those who know the lovely valley of Saas Fee, No. 303, by Rev. T. N. Rowsell, will seem cramped.

Mr. Coleridge has some minute and delicately finished sketches, but they suggest Christmas cards. There are one or two Indian pictures, but they are not successful, No. 267, for instance, being most unnatural.

There are very few portraits or figure studies. No. 9 is an unusually large piece of water-colour painting, and is more or less satisfactory. No. 151 is a realistic rendering of an Arab's head, and No. 52 is a charming figure study.

In this collection, then, there is much that is interesting in scenes from many lands. There is much that is instructive, and very little that is really bad art—or rather, not art at all—and if there is too much dead level, and too little originality, at any rate we can say with the poet there's

"Little that's great—but much of what is clever."

SUMMARY OF THE LIVERPOOL (1891) EXHIBITION CONDITIONS.

THE issue of the terms and conditions of the Liverpool International Photographic (1891) Exhibition has given general satisfaction. We have published on two or three occasions, in previous numbers of the AMATEUR PHOTOGRAPHER, forecasts of the Exhibition scheme; we are now in a position to add further particulars. The show will, of course, be run under the auspices of the Liverpool Amateur Photographic Association, the medium being the Walker Art Gallery, where a set of superb rooms will be at the command of the promoters of the exhibition. Friday, 6th March, 1891, is the day of opening, and Saturday, 4th April, the day of closing. Applications for space—printed forms provided—must be made not later than 20th January, to be accompanied with 5s. entrance fee, which will cover any number of frames not exceeding ten; each additional ten or part of ten, 5s. extra. Minimum charge in all cases, except for lantern and stereoscopic slides, 5s. Lantern slides for competition must be sent in duplicate; one set for exhibition, the other to be used on the screen. The entrance fee is 1s. per duplicate set of six lantern slides or six stereoscopic slides. For trade exhibits, purely for exhibition, and for which there will be no awards nor restriction as to production, a special section is assigned; the entrance fee is £3 3s. For lantern slides, in frames provided by exhibitors in this class, not exceeding four frames, each containing twenty-four slides, the entrance fee is 10s. There will be no charge for wall space in any section. All pictures and exhibits must be delivered at the Walker Art Gallery, Liverpool, not earlier than 2nd February, nor later than 17th February.

These details, taken in conjunction with others we have already made public, will give a general idea of what the forthcoming Exhibition purports to be. The list of classes and awards embraces many features of novelty and interest, and would monopolise too much of our space to give in its entirety, but we may broadly summarise it. In all there are nearly thirty classes, covering exhibits under the heads of portrait, landscape, marine, cloud, animal, group, architectural, scientific, genre, enlargement, stereoscopic, lantern slide, hand-camera, and instantaneous work. Two prizes, one for ladies and the other for beginners, youths under twenty years of age, will be given by the President of the Liverpool Association, Mr. Paul Lange, and there will also be a challenge competition between photographic associations, and a champion class competition. We need scarcely say that the scheme offers many advantages. The specific understanding that amateur and professional workers will not compete in the same class, that exhibits must be declared to be the entire work in every particular of the exhibitor, that the name of the exhibitor and title of the exhibit must appear plainly on the front of the picture, mount, or frame, and that, except in the Champion Class, no pictures shall be allowed to compete which have been previously exhibited in public competition in the United Kingdom, exception being made only in favour of the Photographic Society of Great Britain's 1890 Pall Mall Exhibition, and private exhibitions confined to members of photographic associations, cannot fail to meet with approbation. Other stipulations regarding framing, foreign exhibits, adjudicating, number of awards,

prize pictures, etc., are equally commendable. We have no doubt whatever that the show, altogether, will prove more successful than even the previous great show in Liverpool in 1888.

Letters to the Editor.

THE CHALLENGE CUP.

SIR,—The Newcastle exhibitors complained that some of their pictures were excluded from the Challenge Cup Competition, and I thereupon immediately checked off, by their list and the catalogue, every picture as hung in the three alcoves set apart for them.

Not one was missing, but in addition two of those which had been previously shown at the Crystal Palace were included.

As, however, no mention of the disqualification of those two, or of any others, was made to a single judge, it is not easy to see how the presence of two additional pictures was prejudicial to the interests of the Newcastle Society. The entire number of the Newcastle pictures (Mr. Sawyer having substituted two new for two old ones) were submitted to the judges for their consideration, and the responsibility of the executive was then and there brought to an end.—Yours truly,
J. F. PEASGOOD.

Crystal Palace, April 26th, 1890.

* * * *

DISTRICT EDITORS.

SIR,—At first sight there seems to be a good deal in favour of the views of "A Vice-President," that local Press-men should be appointed to act as district editors, because they would be more impartial than would members chosen from the local photographic societies.

But on further consideration it seems open to discussion whether there would be a balance of advantage in favour of the journalist, for the following reasons:—

(1) He is less likely to grasp the salient points, or to properly appreciate the various technicalities involved.

(2) There is no valid reason why he would be more impartial than anyone else. Is a Radical reporter always impartial in what he writes about "Primrosers"? The journalist, as a regular attendant at the meetings of a society, would be treated as a *persona gratissima*, his good opinion "cultivated," and temptation offered him to write up those who gain his ear.

(3) A Press-man, acting as reporter as well as editor, would require a substantial honorarium.

On the other hand, in favour of appointing a member of the local society, it may be urged—

(1) The member will be familiar with the subjects he has to report, and, as an active worker, will have opportunities of hearing local photographic news denied to the journalist.

(2) There is no reason to suppose he would be less fair than the journalist. In the first place his reports would be open to the criticism of his fellow members; and the executive of his society would certainly use their legitimate influence to ensure his impartiality. Secondly, any unfairness could be intimated to you; the knowledge of which would be a sufficient deterrent for most men.

(3) The remuneration required would be nominal.

It is to be observed that the sense of responsibility in a district editor would be far greater than it is in the case of a quasi-anonymous reporter.

There is, however, one circumstance under which it would be better not to appoint a member of a local society, *i.e.*, where there are two or more rival societies in a district.

As this is the case in my own district, I, in conformity with the above opinion, beg to withdraw my name as candidate for the post of district editor.—Believe me, yours very faithfully,

A PRESIDENT.

* * * *

CHEAP LENS.

SIR,—I notice in your issue of 18th inst. that Mr. G. Davis seeks to cast some kind of reflection on the remarks I made in my paper on "Hand-Cameras" in the PHOTOGRAPHIC SOCIETIES' REPORTER for March 31st, that, namely, some of the Kodak cameras have only a sixpenny lens, with which it is possible to do some very

Good enlargements. I do not know whether Mr. Davis challenges my facts; if so, he may be assured on this point by referring to the Eastman Company, who will also most likely show him the enlargements I speak of. I may add that I do not assert in my paper that these enlargements are the "best" that may be got by any lens, nor do I advocate exclusively, or even at all, the use of such lenses, as a reference to my context will show. Mr. Davis's would-be strictures are, therefore, irrelevant, if not, indeed, fractious, and I can only confirm my statements in the article in question.

Apologising for troubling you at this length, I am, etc.,

April 22nd, 1890.

F. T. NORRIS.

* * * *

F. D. BULMER.

SIR,—We thank you very much for sending us Mr. Bulmer's estimate, which is the first we have seen of the kind.

We beg to say that the lens referred to cannot be obtained from us at the terms named, that Mr. Bulmer has no business credit with us, and that we have already declined to do business with him.

We shall be glad if you will inform your customer of this matter.

We return the estimate with best thanks.—Yours faithfully,
April 22nd, 1890. TAYLOR, TAYLOR, AND HOBSON.

DOCUMENT SENT TO MESSRS. TAYLOR, TAYLOR, AND HOBSON.

"We beg to say that we can supply you with a new Taylor, Taylor, and Hobson 6½ by 4½ R.R. lens, 7 in. focus, for £2 7s. 6d. complete, as per list at £3, delivered direct from the makers, upon a week's approval; guaranteed the latest make and all new improvements up to date. Kindly let this have your consideration; you can rely upon prompt attention being given to all commands.

"April 18th, 1890.

(Signed) F. D. BULMER."

* * * *

YELLOW CALICO v. RUBY GLASS.

SIR,—In answer to "Experience" I can only say, as far as my own experience goes, I always use *yellow calico* in the window of my dark-room; if the light is very bright, generally two thicknesses, only using a ruby lamp at night. I have never found the yellow light fog and much prefer it to the ruby, as it does not try the eyes nearly so much. It is certainly used more in the dark-rooms of professionals, who often have both, only using the ruby over the yellow when the sun is actually streaming on the window.—Yours faithfully,

WENTWORTH A. J. CROKE.

April 28th, 1890.

* * * *

THE ILFORD SCHOLARSHIP.

SIR,—Will you allow me as an amateur photographer of many years' standing, and as one who has taken an interest in the popularising of photographic science, to express to Mr. Howson the regret which I, in common, I am sure, with many others, feel that neither of our leading societies have thought well to take up the responsibility of administering his generous offer, and at the same time to venture to make to him a suggestion which, if he accepts it, will enable the Britannia Company's munificent gift to "benefit the art-science" quite as much as it could have done had it been taken up by a society.

My suggestion is that he should offer the amount as a scholarship to the City and Guilds of London Institute. This body is, as far as I am aware, the only one which holds regular examinations in the art-science, and which, by its grants to teachers, and its awards of silver and bronze medals and prizes for the last ten years or so, has already done much to encourage amongst photographic students the study of the scientific basis of their art.

Let Mr. Howson offer it to the candidate who this year gains first place, and he can specify as a condition that he should utilise it either by attending classes in the higher branches of his science, or improve his art knowledge by entering an art school or the studio of some leading photographer. Thus one student, who must possess a sound knowledge of his subject, will be encouraged, and the knowledge that such a scholarship will annually be offered will attract a much larger number of photographic students to take up their subject scientifically.

Neither I nor anyone else outside the Institute can possibly

know who has entered; still less who will be most successful at the examination, which, I believe, takes place this year on Wednesday, April 30th, and therefore the offer this year cannot affect the number of entrants, nor can I have any personal object to gain, whilst the fact that Captain Abney, F.R.S., is the examiner will stamp the examination as perfectly impartial, and its result as a sound guarantee of sufficient merit. If Mr. Howson entertains my suggestion, and would care further to know my views on the most feasible arrangements and conditions, I shall be most pleased to communicate with him privately or otherwise, and you, sir, have my address.—I am, etc.,

SILVER MEDALLIST OF CITY AND GUILDS INSTITUTE.

The Complete Photographer;

OR,

THE MODERN RECREATION OF CONTEMPLATIVE MEN.

By H. P. ROBINSON.

CHAPTER IX.

Development (continued.)

PHOTOGRAPHER.—We will now develop one of the three plates we have exposed. For this we shall require a tray or dish. The selection of this dish is of some importance; many varieties are made for the purpose, few of which are efficient. Some of them are very elaborate, set up on stands, provided with a trough for the developer, made to rock like a cradle, and have transparent bottoms. You may take it that inefficiency in this case, as in many others, is in direct proportion to complications. A solid glass dish would be clean and competent, if a well-made one could be got, but they are usually so warped that your plate will not lie flat in them, necessitating a much larger quantity of solution. Papier-maché trays have usually a similar fault, they bulge up in the middle. Thin ebonite trays, with ridges at the bottom, are good for small sizes, but for larger plates they soon come to pieces, and you find they are made of brown paper with a thin skin of ebonite. On the whole, I prefer solid ebonite trays. These err a little on the other side, and the bottoms are so truly flat that it is difficult to remove the plate from the solution for examination. This can be remedied by laying a thin string under the plate, or dropping three or four small patches of sealing-wax on the bottom.

We exposed three plates on the same subject, and will begin with the one we judge to have been correctly exposed—the two seconds one. As a rule, the technically best negative is the product of right exposure, developed with the normal developer, without any dodging.

PUPIL.—What is "dodging"?

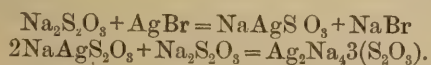
PHOTOGRAPHER.—I mean that the technically best negative is the result of the simplest development. A plate that is so far from rightly exposed as to call for all your skill to make a negative of it, is not likely to be so good, although it may please you better because you have had to nurse it so tenderly.

We mix our developer as I have already described; that is, we take 3 ozs. of water in a measure, to which we add 60 minims of the pyro solution (A) and the same quantity of ammonia and bromide (B). We then place the plate in the dish and pour on the developer. Now watch the result. In a few seconds the image appears, and gradually grows, and I can see that it is coming rightly. Our object is now to continue the development until the image assumes the right intensity. It requires considerable experience to know when this is done, for the thickness of the film makes it difficult to judge, and this is where inexperience often

fails. However, something may be done. We will lift the plate from the tray, and hold it between our eyes and the orange light, taking care to keep it moving laterally to prevent the developer running in streaks and causing lines in a downward direction. It probably now appears to you to be a blank mass of density, without much appearance of image, but to my more experienced eye it is still too thin, so we will continue the development. The sky and other bright objects are now seen to be coming darker, and in about three minutes from the commencement I judge it is done, and we shall have a good negative. Different makers' plates vary considerably in the time they take to develop, but these we are using come up rapidly. We now wash the negative under a good stream of water, and it is ready for fixing. With some plates, especially in warm weather, it is necessary to place the negative at this stage in a saturated solution of alum to prevent frilling (an expansion of the film) at the edges, but the ones we are using will not require that treatment. The plate is now placed in a solution of hyposulphite of soda—4 or 5 ozs. to the pint of water; the proportion is not very material—to dissolve the unaltered bromide of silver. You may keep the hypo dish outside the dark-room, for if well washed a weak light will not do the negative any practical injury, although I hear that theoretically it is most pernicious—which is no great matter. It must remain in the hypo not only until the milk-coloured bromide is apparently removed, but at least a quarter of an hour longer. The reason for this is that there is an invisible chemical compound, which, if not removed, will in time turn brown and ruin the negative. When I have a negative that I greatly care for, I take the precaution to give it a second bath of fresh hypo.

PUPIL.—What is this invisible chemical compound; has it a name?

PHOTOGRAPHER.—Now you are becoming inquisitive. It is not within our contract but I will satisfy you once for all in the clear language of science. The further reaction in the fixing-bath consists of the union of two molecules of the compound AgNaS_2O_3 with one molecule of sodium thio-sulphite (vulgarly called hypo), producing the soluble salt $\text{Ag}_2\text{Na}_4\text{S}_2\text{O}_5$



PUPIL.—Thank you! I am grateful and contented for ever. Pray proceed on the old lines.

PHOTOGRAPHER.—The negative must now be well washed in running water—or, if that cannot be had, in water often changed—for at least an hour. We need not wait for that, but will give it a slight rinse and examine it.

PUPIL.—What is the right intensity of a negative?

PHOTOGRAPHER.—That which in the print shows the nearest truth to the tones and gradations of the scene represented. Let it be a "sparkling" negative if the scene is sparkling, and dull if the scene is dull. I prefer the thinnest negative that can be made, without omitting any of the gradations between light and dark, especially for platinotype printing. For silver printing I have always been heterodox enough to think a *very* slightly fogged negative gave the best atmospheric effect, and I think little of a landscape photograph that does not show air and space.

Looking through our negative by transmitted light, we find that the darks, in very minute quantities, are represented by clear, or nearly clear, glass, and the high lights, also in extremely small quantities, are nearly opaque, and the rest of the negative, including the sky, is made up of half tones and gradations ranging from the highest lights to the deepest darks, and that the whole has proper printing density, a quality which you will only learn from much ex-

perience. Too thin a negative would give a flat print with loss of gradation, while too intense an image would give a print of the soot and white-wash order.

We will now take the plate that we know was under-exposed. For this we shall require to start with less of the pyro solution and more of the ammonia, which, with careful treatment, will produce nearly as good a negative as the other, as you will soon see. . . . The excess of ammonia has produced a slight film over the clear portions we do not find in the first negative, neither do the gradations come out with quite the satisfactory harmony of a properly exposed plate; it will make a good print nevertheless. The third plate, which was much over-exposed—five seconds as against two, which was correct—will take more careful treatment. We know it is over-exposed, and can therefore provide for the difficulty at the outset. The case of an unknown exposure we will take presently. We mix our developer thus:—Water 3 ozs., pyro (A) 60 minims, ammonia (B) 20 minims, and bromide solution 3 or 4 minims. Notice the difference in proportion and the additional restrainer. You see that the image comes out much more slowly than the first plate, and we must have patience. If it came out more quickly, I should add more bromide. Now, after ten minutes, it appears to be nearly done, but it is still thin and weak. Some photographers would continue the developer for a very long time, but I see no advantage in this, but prefer to act as follows:—I drop a few minims of ammonia solution (B)—say, for precision, 10—into the measure, add the same quantity of bromide, and pour the developer into it, and return it to the plate in the tray. You now see that the image at once slightly darkens, and the development is finished. This darkening of the image on the addition of ammonia and bromide is the effect to which I alluded in our last conversation. It is often the practice, when density is desired, to add pyrogallic acid; this is a mistake, there is enough pyro in the formula to produce any reasonable intensity, but it must be incited to further action with restrained ammonia. The three negatives are now developed. If you saw prints from each plate side by side, you would have difficulty in saying which was which.

PUPIL.—Now for the case of the plate that has had an unknown exposure, which, I apprehend, is what I shall often meet with.

PHOTOGRAPHER.—The treatment here to begin with is nearly the same as the last, omitting the bromide solution: Water 3 ozs., pyro (A) 60 minims, ammonia (B) 20 minims. This is intended as a feeler. If the image rushes out instantly, pour off the developer, and flood the plate with water. If there is not time to save the developer, at any rate lose no time in turning on the water. Then proceed as for an over-exposed plate. If, on the other hand, the image hesitates unusually, and shows signs of under-exposure, add the rest of the ammonia solution to make the developer up to the normal strength, and if that does not do, proceed as already directed for a plate of this character.

I have now shown you how to treat three degrees of exposure and the unknown, and must leave you to attain certainty by continual practice, for nothing but experience, and comparing your results with negatives of known excellence, can teach you. It would also be of value to show to an expert what you have done, and to take his advice—if you can find one of an amiable temperament, who also rather likes being bored.

PUPIL.—I must come to you!

PHOTOGRAPHER.—But if your negative does not turn out of the right intensity at first, it is probably not lost. There is much salvation in reduction and intensification, a subject we will go into at our next meeting. We have not, however, done with the negative yet. It must wash for at least

an hour, as I have said, and then you will probably find it has a very slight brown colour, which would retard the printing if left in the film. This must be removed. Take a saturated solution of alum, 40 ozs., to which add half an ounce of hydrochloric acid. Place the plate in this for a minute, and you will see a great improvement. The brown colour will give way to that delightful grey which is always seen in a good technical negative. Another hour's washing will complete the operation, when the negative may be placed in a rack to dry.

We have still that unfortunate plate which we left so unreasonable a time in the camera, with the shutter withdrawn, before exposing. Throw a little developer over it that you may see the result. It is a negative, but the image is badly fogged.

(To be continued.)

The Electric Light and Photography.—II.

By T. C. HEPWORTH, F.C.S.

LIGHT BY INCANDESCENCE.

It is always an interesting operation to trace the gradual evolution of any particular invention. First we have the germ, in the form of an idea which, perhaps by accident, was born of the brain of the pioneer worker; and then we see how this infantile idea gradually grows, fostered by others, until it attains full growth and becomes serviceable to mankind. The incandescent system of electric lighting, which is even now so extensively used for interior illumination, found its germ in the patent specification of E. A. King, to which I have already referred; and to show how like in principle this invention of 1845 is to our modern system, I annex a sketch of King's lamp, which I have copied from his specification, and I quote the description accompanying it:—

"A is glass tube, similar to those used for barometers, except that it has its upper end enlarged into a cylindrical bulb, and a stout platinum wire sealed in at the top. A binding screw is fixed on the top of the wire, whose lower end screws in the iron piece D. To this piece the forceps F are attached, and it is connected with a similar piece at H by the porcelain rod T. The forceps G are attached to H, and clamp the lower end of the carbon piece (C), which has its upper end held by those at F. N is a copper wire, which is fixed in the piece at H, and extends to the bottom of the tube. The tube is filled with mercury, in the same manner as a barometer, the usual precautions being taken to expel the air; its length, independent of the bulb, should be about 30 inches, so that when it is inserted in a cup of mercury a vacuum will be formed in the bulb. The instrument is included in the electric circuit by connecting one of the wires from a magnetic machine or voltaic battery with the binding screw fixed on the wire E, and the other with a wire which passes into the mercury in the cup at the bottom of the tube."

It will be seen from the above description and diagram that King's incandescent lamp is the same in principle as

those of modern times. A strip of carbon is contained in a vacuum, and is brought to incandescence by the resistance which it affords to the passage of an electric current. But the rough carbon then obtainable would at the most only hold together for a few hours, and the device to obtain a vacuum by means of a 30 inch column of mercury was cumbersome, and expensive enough to limit the lamp to experimental uses only.

In the following year Greener and Staite patented a lamp which really represents the same idea as King's with the parts differently arranged. The mercury column also disappears, and we may presume that the inventor intended to exhaust the globe of air by means of a pump. In this design we are certainly brought nearer to the modern glow-lamp, but the thick stick of carbon which is placed between the electrodes is very different to the hair-like filament which is now used for the same purpose. Putting other considerations aside, it is certain that the comparatively large pieces of carbon used in these first lamps would require a very powerful current to bring them to an incandescent state. Greener and Staite's patent specification is worthy of further notice, because it includes sundry processes for the preparation of a finer description of carbon than that afforded by the gas retorts, and here we certainly have an important step in a forward direction.

The incandescent form of electric lighting seems to have now been put aside for a time, but in 1871 it was again revived, and strangely enough in a country which we do not usually associate with much advancement of any kind. It was in Russia that this system, in the year 1871, received what may be described as its first public trial. In this year M. Lodyghin showed two hundred incandescent lamps lighted on one circuit—the current being derived from an Alliance machine—of which more hereafter. We read that this experiment, which was successful in every way—for the short period which it covered, be it observed—made so great a sensation that all other forms of artificial illumination were looked upon as doomed. A Company was formed, and the inventor was somewhat prematurely rewarded by a sum of 50,000 roubles from the Academy of Science. But after a short time the excitement died a natural death, and the Russians had to return once more to lamps and candles. I have no knowledge of the exact form which these lamps assumed; but fig. 2 shows one which was invented in 1872 by Konn, another Russian.

This lamp contains a rod of graphite as the incandescent material, and the globe, instead of being exhausted of air, was "hermetically closed and filled with nitrogen, or other gas that does not support combustion." In the description of this patent, we have evidence that the inventor was aware that the carbon was perishable, for he provides a means by which the current, when one strip of graphite became spent, could be switched off to a second and subsequently to a third strip.

It would be tedious to quote the various lamps of this kind which have been invented and reinvented during the past twenty years. They are interesting only historically, and as links in the chain which led up to the modern glow-lamp, the gradual perfecting of which we owe to the researches of Edison, Swan, Maxim, and others.

It is interesting to look back to the time, ten years ago,

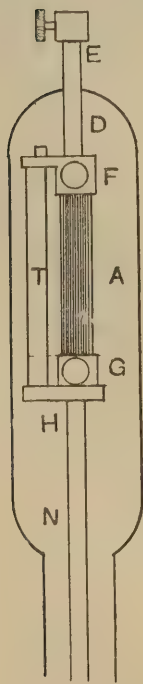


FIG. 1.

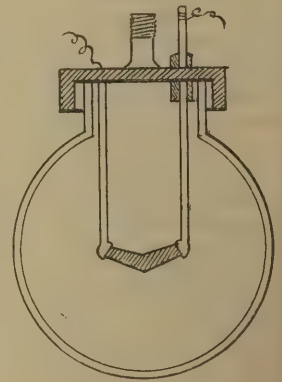


FIG. 2.

when the news of Edison's discovery of the glow-lamp was first made public by one of those sanguine telegrams from New York which so frightened the shareholders in our gas companies. This telegram told us that Edison had perfected an electric lamp of extraordinary simplicity, costing only twenty-five cents, and that he was going to illuminate Menlo Park by its aid; that he had discovered that a steady, brilliant light could be obtained by the incandescence of mere carbonised paper better than from any known substance. Strips of drawing paper in horseshoe form were placed in a mould and baked at a very high temperature, and their charred residuum was then attached to platinum wires which were hermetically sealed in a glass globe from which the air was exhausted. This, attached to a wooden stand, or ordinary gas fixture, was the whole lamp. About the same time as this wonderful paragraph appeared in the papers, I remember that a lamp was brought out in London and sold for one shilling. It professed to be a perfectly efficient electric lamp, and consisted of a glass tube with a small piece of carbon pencil fixed between two wires in its interior. I have no doubt that this contrivance had an enormous sale—for it appeared to be complete in itself—and was certainly cheap. The cunning inventor, however, left the purchaser to find out that attachment to some generator of electricity was necessary before it would give light. We can trace the likeness to the modern glow-lamp in the above description of Edison's 25 cent. arrangement, the most noticeable point of difference being the use of a hair-like fibre of carbonised bamboo instead of the charred cardboard. Mr. Swan, in England—whose name is familiar to every photographer—had before this used a parchmented thread for the same purpose, and this is still in use. We shall presently see how in various forms the glow-lamp is being employed for photographic purposes.

(To be continued.)

The Stereoscope.—I.

BY VALENTINE BLANCHARD.

SURELY, in these latter days of this most wonderful century of invention, when photography—which was in a most nebulous form at its commencement, and only took practical shape when its first half was nearly expended—is practised in some way or other by almost every third person one knows, the time has come for the resurrection of that practically long-buried instrument, the stereoscope.

To live in such an age, however, is a blessing not entirely without alloy, for we all know so much about so many things that we are quite *blasé*, and it is difficult to arouse anything approaching the enthusiasm displayed by the early workers in any of the arts, and particularly in that of photography. It is true there are more cameras at work doing *something* than at any other period in the history of the art, but the enthusiastic amateur who made his own cameras, and occasionally even ground his own lenses, but who most certainly printed, mounted, and entirely finished his own pictures, is now distinguished by his rarity.

Let us hope, however, that the enthusiasm we speak of is not entirely extinct; and the object of the following papers is to try and awaken enthusiasm for that almost obsolete instrument, the stereoscope.

So completely is it a thing of the past that when mentioned to modern amateurs the frequent answer will be, "Ah, yes, I remember we had one when I was young, but I don't know what became of it, for I have not seen it for years. I think the glasses came out, or something or other happened to it; at any rate, it disappeared."

The discussion a short time ago ably carried on by Andrew Pringle on one side, in answer to an astounding statement made by some one, that two copies of the same negative mounted side by side and viewed through the stereoscope would give exactly the same effect as pictures specially taken at different angles by a twin-lens camera, for the stereoscope—and produce equally well, in fact, stereoscopic relief—shows the necessity of going into the subject completely; and therefore those who may find in the following articles much that is stale, flat, and unprofitable must remember that the best method of teaching is to assume the pupil has complete ignorance of the subject, and start with the A B C.

The history of the stereoscope is absolutely necessary to the modern photographic amateur, for he can form no idea, seeing it as he does in its present forlorn and neglected condition, what a position it once occupied in every cultivated home. The family album really deposed it, but perhaps even at the zenith of this later craze it never furnished so completely all-round conversation as did the now half-forgotten favourite of a former day.

The fact that each eye sees its own picture, and that by some occult process difficult to explain the brain received the impression of one picture only, has furnished speculation for the philosopher for 2,000 years, beginning with Euclid and ending with Brewster; but to Wheatstone is due the bringing to a focus, as it were, the nebulous material collected from the dust of ages, and giving a practical and tangible form to it all, in his reflecting stereoscope.

Sir David Brewster, to whom we owe the portable form of stereoscope now known all over the world, appears, in several of his contributions, jealous of the discovery of the principle of stereoscopic relief by Wheatstone, and endeavours to make out that it was known by Jacopi Chimenti in 1593, and that he drew pictures in pairs. One of these twin drawings is in the museum of Lille, and in consequence of much speculation about it, a photograph of it was made by Bingham, and a copy sent to the Prince Consort, but, in spite of Brewster's assertion, who maintained that several persons who saw the pictures found they gave something approaching stereoscopic relief, the weight of the evidence was against him, Bingham, among others, announcing that there was no relief whatever. Brewster asserted also that some years before the exhibition of the first reflecting stereoscope by Wheatstone, some one in Edinburgh was busy with investigations about the same time. It is evident that Brewster regarded Wheatstone as one of those ancients who steal all our best and most original ideas, and did all he could to lessen the importance of the great discovery. But in spite of all he has written about the labours of others, the stereoscope owes its origin entirely to the experimental researches of Sir Charles Wheatstone on binocular vision.

The following passage from Mayo's "Outlines of Human Physiology," p. 288, published in 1833, is the first clear explanation of the principle on which it is constructed:—"A solid object being so placed as to be regarded by both eyes, projects a different perspective figure on each retina; now, if these two perspectives be actually copied on paper, and presented one to each eye so as to fall on corresponding parts, the original solid figure will be apparently reproduced in such a manner that no effort of the imagination can make it appear as a representation on a plane surface." Sir Charles Wheatstone's "Contributions to the Physiology of Vision (Part I.)," appeared in the "Philosophical Transactions" of 1838, but this paper was the result of investigations extending over a period of years, and there is evidence that reflecting stereoscopes were constructed for Wheatstone by Newman, a well-known philosophical instru-

ment maker, as early as the year 1832. Wheatstone, no doubt, also as early as 1845, employed photographic pictures for his reflecting stereoscope.

Sir David Brewster took up the subject, and in two papers read by him before the Royal Society of Edinburgh, in January, 1843, and April, 1844, gave the result of his researches. Further experiment finally led to the invention of the Lenticular or Refracting Stereoscope—the modern instrument, in fact, which has survived as the fittest. His first instrument was exhibited at a meeting of the British Association in Birmingham, in 1849. A more perfect instrument was made for him by Mr. Laudon, of Dundee, and shown to the Abbé Maigno in 1850. Dubosc, a Parisian optician, took up the manufacture, and of the first one made by him, the Abbé Maigno says, "It is constructed with more elegance and even with more perfection than the original instrument."

In his article on the "Stereoscope" for the "Encyclopedia Britannica," Brewster says that "on December 30th, in 1850, Dubosc exhibited the lenticular stereoscope to the Imperial Institute of France, and a committee of eminent men, whose names need not be given here, was appointed to examine it. Again we have the old, old story, a prophet hath no honour in his own country. It needed a journey to France, and honour and glory there, to make the stereoscope a popular instrument in the land of its birth; and with some bitterness, further on in the same article, Brewster says, "Although Sir David Brewster offered the free use of his invention to the opticians of London and Birmingham, in 1849, yet not a single instrument was made by English artists, and it was not till a year after its introduction into France that it was publicly exhibited in England."

The regular manufacture of stereoscopes was commenced by Messrs. Soleil and Dubosc—the first a good name, by the way, for the maker of an instrument for the exhibition of sun-pictures—and still-life groups, such as vases of flowers, statuettes, objects of natural history, etc., were employed by them to show the wonders of the new instrument. At the great exhibition of 1851 some beautiful daguerreotype pictures were shown by them in one of their new instruments, and became the talk of all London. These pictures attracted the attention of the Queen, and before the Crystal Palace was closed one of Dubosc's instruments with a set of slides was presented, in the artist's name, to her Majesty by Sir David Brewster.

Looking back to this period, it is not at all surprising to see the French so far ahead of us in the manufacture of stereoscopic slides, for the daguerreotype process—"free to all the world as the sunlight that gave birth to it," as was said by Arago in announcing the pension given to Daguerre, for his discovery—had been patented in England by the latter, who evidently was by no means a bad man of business and said nothing about it until after the award of the pension. It naturally followed that the free use of the daguerreotype process for some years before it became free in England advanced the quality of the French productions over those of the English, and gave to the Parisian photographers a distinct start in the production of stereoscopic slides.

It is interesting to note that the year of the great exhibition gave to the world the Brewster instrument in a commercial and workable form, and the collodion process which gave it its world-wide popularity, for, beautiful as were the daguerreotype slides, they could only be produced slowly one by one in the camera, whilst the ready means of multiplication furnished by Archer's method soon spread the wonders of the new instrument broadcast over the globe.

(To be continued.)

Camera and Canvas Shake Hands.

BY THE PRESIDENT OF THE CROYDON CAMERA CLUB.

MANY of us remember the confident predictions of a quarter of a century back, viz., that the sun picture would drive the brush picture off the face of the earth, and the time was at hand when the followers of Raphael or Turner would vanish into obscurity.

At the time referred to, the realistic painters had not routed the "conventionals," nor had the British barbarian been sufficiently educated to recognise the most superficial defects in works of art; much less was he able to feel any sympathy with the beautiful or intellectual attributes of art *in excelsis*. Nevertheless, amateurs were beginning to sicken of landscapes which had no more local individuality than has a Chinese drawing on a hand screen; landscapes in which the various trees were mechanically painted according to a pattern generally evolved from the artist's inner consciousness, but in all cases more in the nature of hieroglyphics than facsimiles.

What more natural than to think that photography would, almost at a bound, bring about the much needed revolution, and be ever after the chief rabbi of high but realistic art? We latter-day people can quite understand that such views seemed, at that period, by no means oversanguine.

But, alas! how has this flattering tale been marred by the hand of time and the light of experience. Photography is found to be neither realistic nor artistic.

George Washington could not tell a lie, but the sun can and does *every* time it speaks to the sensitised silver. Workers have long ago found out so much; but what they have been more slow to discover is that, broadly speaking, photography is inartistic. Splendid and graphic views are produced bristling with every detail which nature can print, but wanting a soul. They may be likened to an Apollo who is at the same time an idiot. In my mind's eye I have certain exceptions; but they are so few as to be but as drops in the ocean, and only by contrast heighten the dismal effect of the mindless mediocrities which we have all too often seen.

Why is this so? Because from the beginning the artist has shrunk from any association with the photographer, and both have ever since carried on an internecine war. True it is that artists now use photography most extensively in building up their pictures; but they do so by stealth, and in fear and trembling.

Again, many photographers, confounding two opposites, believe that nature is art, and that the camera only requires feeding with views in order to reward the owner with works of art. Somehow this has not usually happened: that it was not likely to, was always apparent to workers with the brush. But since, in consequence of the great improvements in apparatus and processes, it has become quite common for almost anyone to produce sharp and "brilliant" negatives, the all-round lack of artistic merit has become more self-evident. So much is this the case that certain photographers have hit upon the ludicrous expedient of cultivating "fuzziness" in their prints. They seek salvation in dim obscurity, and believe that to be the gospel of art. If so, then is Meissonier among the lost.

But others, who are verily the apostles of truth, have at last grasped the fact that photography cannot thrive unless she be wedded to art; this doctrine they are now disseminating, both by precept and practice, with a vigour which bids fair to produce important results. At the same

time such of us as have studied art cannot but know that photographers, as a body, have a tough task before them. The manipulative part of photography can be learnt in, say, six weeks; as many years may pass without the student acquiring an art education.

It is, therefore, passing strange to hear some of the enthusiasts who have received the truth, talk of studying art for a few months with a view of qualifying themselves for the new departure. They have been talking prose all their lives without knowing it; now, heigh presto! they will talk nothing but poetry. They imagine that by cultivating a *hortus siccus*, by collecting the dry sticks of "artistic composition," they can manufacture works of art. As well expect to write poetry by learning rules of rhyme and rhythm! That photography is at times capable of highly artistic results, I have already said. In order that the exception may become the rule, what we photographers collectively want is the active help of *ready-made* artists; of men who have for years worshipped at the shrine of Art, and learnt from her divine lips how to combine humanity and nature, how to give the realistic a soul, how to turn a topographical scene into a pictorial poem.

Experiments with the Optical Lantern.

By THOS. FLETCHER, F.C.S.

THIS paper was read before the members of the Warrington Literary and Philosophical Society, and we have pleasure in giving the following extracts:—

You are no doubt all familiar with the ordinary arrangement for showing slides, which consists of a source of light, which should be as small and intense as possible, a condensing lens which is made of two plano convex lenses to collect the light, and the objective, which also has two separate lenses used to focus the image on the screen. The lens of the condenser nearest the light collects the rays and throws them in a parallel beam, the other lens collects this beam and concentrates it on the objective. If we unscrew the outer lens and remove it to any distance, we have in the space a parallel beam of light which we can reflect and turn about in any direction, and then throw on the screen. You see on the screen a photograph of an arrangement of this kind, where the parallel beam of light is reflected upwards by a mirror placed in a box; on the top of this box is placed the outer half of the condenser with the flat side upwards, and above this the objective at the proper distance. If we place on the horizontal surface of the condenser any slide or picture, this is projected on the ceiling, or with another mirror it can be thrown on the screen. If a pointed pencil or needle is used on this the pointer is also shown on the screen, and the lantern manipulator can lecture and use a pointer on the screen as easily as if he were at the screen itself. The same arrangement can be used for showing vibrations of plates of glass covered with sand, chemical experiments with shallow glass tanks, experiments with magnets and iron filings, and endless other demonstrations in physical science. This method of dividing the condenser seems to be almost unknown; the usual way is to place the light dangerously near the lens, and so obtain a parallel beam, using an extra and costly condensing lens to collect the beam. As you will see, this is simply a waste of money.

Another adaptation of existing parts will be found exceedingly useful. When a lantern is used, sometimes close to the screen, and at other times at a long distance, a necessity when the demonstration is given in rooms differing

in size, it is usual to have costly objectives of different focal lengths. This is quite unnecessary. If we have, say, an objective which gives a 15 ft. picture 20 ft. from the lantern, by removing the back lens of the objective and setting the light nearer the condenser we shall get a 15 ft. picture about 40 ft. away; if we remove both, and place the back lens in front, we shall get a 15 ft. picture 80 ft. from the screen. This enables us to work in rooms of any size, and obtain any size pictures we require with the same lenses. There may be a difference in lenses; the distances given are from my own. There is one little objection to this as regards the ordinary lantern in the fact that the objective requires to be brought much more forward, but it is a simple matter to separate this from the lantern body and mount it on a separate stand; in fact, this must be done before other experiments can be performed, all lanterns for physical demonstrations being made in this manner, and mounted on a long board with guides for placing the various appliances correctly in the centre. Replacing the lenses in their ordinary position, we will put in the slide carrier a plate with a narrow slit in it to get a thin line of light, before this we will place a prism which throws the spectrum on the screen, showing the decomposition of light. The demonstrations in spectrum analysis and the decomposition of light are almost endless; these we must leave for your own private experiments. Removing the slit, and replacing it by a plate having a small hole in, we get a small beam of light, with which immense numbers of experiments may be made. We will show you the vibrations of a sheet of paper pasted on the end of a tube, these vibrations being shown by a tiny mirror of thin microscope glass silvered, which reflects the beams. Similar experiments may be made with tuning forks, vibrating rods, etc.

Before leaving the simple adaptations, we will show you the geometric pen on the screen. It is arranged as an ordinary slide, and the patterns which can be obtained are endless. These are not only pretty in themselves, but are useful in the lantern kaleidoscope, which we shall show you, and also for the production of diffraction spectra, a subject hardly suited for demonstrations in a large room. If we remove the objective and put in its place a box which has a hole in it, opposite the condenser, fixing the objective in this box as nearly opposite the opening as possible, we get a picture of any solid object, thrown backwards, and by turning the lantern nearly round we get the picture on the screen. This is known as the aphengoscope, and with it sketches, photographs, pictures in books, watch movements, etc., can be shown. What you have seen is only a small part of what you can yourselves easily do with a little trouble and the expenditure of a few pence on an ordinary lantern.

We will now leave the simple arrangements, and turn to those which require special additions, which cannot be made by an amateur. First, we will take the lantern microscope, which is an arrangement taking the place of the objective. In this the ordinary microscope objectives and slides are used, and in the ordinary form both light and heat are concentrated that the micro slides would be destroyed if the heat were not stopped by a glass tank filled with a concentrated solution of alum. Mr. Furaivel has made for me a lantern microscope, which you see on the screen, and which has the special advantage of focussing the heat rays and the light rays in different places, and the result is that no alum screen is needed, the slides remaining quite cool under the most intense beams of light. We will now show you the kaleidoscope, which also goes in the place of the lantern objective, the best objects for this being bits of lace, asparagus leaves, designs made with the geometric pen, and similar objects, the lace, etc., being cemented on a circular glass plate, which fits into a chromatope frame.

The Mathematical Calculation of Exposures, and a New Exposure Meter.

MR. ALFRED WATKINS read a carefully planned paper on this subject before the members of the Hereford Photographic Society, on April 1st. He referred to the fact that, in spite of the imperfections of exposure tables, and many jokes at their expense, they have proved an aid to many who feel the want of certainty and weakness of the old method. Five axioms were laid down as the "grammar of photographic exposures."

Axiom I.—Five primary factors, each quite independent of the others, govern a photographic exposure. They are: (A) The actinic force of the light falling upon the worst lighted part of the subject. (P) The sensitiveness of the plate used. (S) The capacity of the subject, or its most non-actinic part, for reflecting sufficient actinic light to the lens to form a photographic image of suitable intensity. (D) The size of diaphragm; its relation to the focus of the lens. (F) The distance of the subject from the lens.

Axiom II.—The value of each of the factors (as affecting the exposure) may be expressed in numerical terms.

Axiom III.—The proper exposure for any given conditions being ascertained, the correct exposure for every other possible combination of conditions (or factors) may be calculated by mathematical means.

Axiom IV.—The quantity of actinic light reaching the plate, reflected from all parts of the subject, or even one part of the subject, is no guide to the duration of the exposure.

Axiom V.—Two ultimate factors determine the duration of a photographic exposure on any plate, viz, (a) The quantity of actinic light reaching the plate reflected from that part of the subject which reflects least actinic light, and in which detail is required to be rendered. (s) The duration of this light necessary to impress upon the plate an image approximating as nearly as possible (in inverse intensity) to the visual image of the object in question, is the correct exposure.

The means of ascertaining the values of each of the factors above mentioned were entered into. For factor A it was pointed out that a chemical actinometer was best; a photometer, in which the eye is used for estimating the light being unsatisfactory for this purpose. The bromide of silver actinometer, as advised by Captain Abney, is simple and effective—the number of seconds taken to discolour it to tint giving the A value. It was pointed out that the only proper way to test the light was just *where it falls upon the subject*. An actinometer will soon become as indispensable to a photographer as a thermometer is to a chemist, and the usual advice to test the light in the open, and if you are about to take an interior, to calculate what proportion of the light reaches the subject, is just as absurd as for a chemist wishing to ascertain the temperature of a mixture he is heating, to put the thermometer (or pyrometer) in the heating flame, and then estimate how much of the heat is absorbed, instead of trying the actual heat of the mixture.

The standard for an arbitrary scale of numbers representing the sensitiveness of the plates used was also touched upon.

The factor S was next examined, and the error into which all compilers of exposure tables have fallen pointed out; they have mixed up the quite independent factors of lighting and subject.

In practice it is necessary to give a shorter exposure for white objects (in which detail is required) than for objects

of average colour, and a longer exposure for dark-coloured objects; hence the need for a table of subject-values.

The factor of distance affects the exposure in distant objects, by the atmosphere adding reflected light to the image and shortening the exposure; in the case of very near objects the camera has to be racked out and the exposure is increased. It was found convenient to draw up a scale of subject numbers for all coloured objects and varying distances thus combining the last two factors.

A set of six prints from negatives of widely varying subjects, the exposures calculated by the new exposure meter, and all developed together in one dish, were handed round. They varied in character from a cloud picture to a copy of a dark terra-cotta bust in a room.

Mr. Watkins next exhibited his new exposure meter which he has protected, and which will soon be on the market. It is a small circular brass box, having at one end the actinometer, at the other a chain pendulum for toning both actinometer and camera exposures, while round the circumference are four movable rings each bearing a pointer, for the factors A, P, S, and D; when these are moved opposite their correct values, a fifth pointer, E, gives the correct exposure.

The average time taken to test the light and to find out the correct exposure does not exceed thirty seconds.

The approximate plate numbers for different makes of plates would be given in the instructions, but photographers were advised to make a test to ascertain for themselves what plate number gave a negative of the kind they required with the developer they were in the habit of using.

A rather subtle point touched upon in Axioms IV. and V. was next entered into. More than one photometer is made based upon the idea that the quantity of light reflected from the object and reaching the plate is an exact guide to the exposure. This was pointed out to be quite a mistake, and three different pictures were thrown on the screen, one with a large quantity of white in it, another with a large quantity of black, and a third of average amount; the part of the picture in each case which determined the proper exposure was a patch of dark detail, and the exposure for all three would be the same. Any photometer, however, estimating the light reflected from these subjects would give different and misleading results. Again if three different shades of grey paper were copied on three plates, with three exposures varying in inverse proportion to the quantity of light reflected from the papers, the three resulting negatives would be all of exactly the same intensity, which is not the result desired.

PHOTOGRAPHIC SOCIETY OF IRELAND.—A technical meeting of this Society was held on Thursday evening, 24th ult., at 15, Dawson Street, Dublin, Mr. Greenwood Pim in the chair. A joint paper on "The Utility of Hand-Cameras on Tour," by Mr. M. Hedley and Dr. J. Alfred Scott, was read by the latter gentleman, and a number of slides of pictures taken during a tour in Scotland last year by those two gentlemen were thrown upon the screen, and were much admired by those present. At the conclusion of the paper the Chairman asked Dr. Scott what proportion of exposures, time or instantaneous, were the best. Dr. Scott in reply said that only 18 out of 169 plates exposed were time exposures, and they invariably toned out very good. In reply to Dr. Cosgrave, Dr. Scott said that his lens was a cheap French R.R., with a full aperture of $f/6$, but he found that $f/12$ gave a very general all-round focus, and told better for transparencies. In reply to Mr. Strangways, Mr. Hedley said he used one of Lancaster's Instantograph cameras, placed in a common pine box, with Lancaster's ordinary revolving shutter. The Chairman then exhibited Ferrero's film carrier. Fallowfield's detective camera was shown by the Rev. Canon Bagot, Shew's Eclipse camera by the Hon. Sec., and Dr. J. A. Scott exhibited a hand-camera constructed by himself, and based on Rouch's model.

Our Contemporaries at Home and Abroad.

Anthony's Photographic Bulletin (N.Y.) says: "A novel method of reproducing negatives comes to us through our French exchanges. A dry plate is treated with solution of potassium dichromate of about the same strength as used for carbon tissue. After exposure under a negative, as is well known, those portions that have been protected from light will absorb water, while those that have been exposed to the luminous influence will not absorb this liquid. If the plate is now immersed in an aqueous solution of some colouring matter, those parts that have not been exposed will absorb the coloured solution and the others will remain uncoloured. A dry plate is used according to the report, but a bichromated gelatine film without a silver compound in it should answer the purpose. Paper coated with bichromated gelatine and exposed under positives, such as tracings of engineer's drawings, would give positives in black lines on a white ground, if soluble aniline black is used as a bath. This is only a suggestion; perhaps some of our readers can try it." Articles: "Photographic Exhibitions," "Blisters," "Anthony's Celluloid Films," "A Note upon Eikonogen," "The Chemistry of Copper and its Salts, and their Behaviour in Photography," "Constant Focus and Depth of Focus in Photographic Lenses," "The Action of Light on Silver Chloride," etc.

The *Photographic Times* (New York), in an article on "Rules and Effects of Lighting," says: "A picture is made of light and shade blended with intermediate tints, that is, half lights and half shadows. Nothing in the face is entirely white. All is more or less shaded with touches of shadow in the more receding parts and touches of light on the prominent parts, as it appears in nature on the eyebrows, the arch of the nose, the chin, etc. Neither is anything entirely dark, the shadows being relieved by half shades and half lights, which depict the form of the face and show its anatomy. There must be one light only illuminating the entire picture. In a portrait it is that which falls on the head. That part of the face nearest to the source of light should be lighted the most, with gradation to shadow in the receding parts. Every light should have a focus or centre of illumination brighter than the rest. In a portrait, the focus on the prominent parts of the face, as mentioned above. No light, no shade exists in nature without a focus, without gradation. The shadows should not be vertical nor horizontal, which is unnatural, and inartistic in effect." Articles: "An Interesting Trifle," "Photography in Colours," "The Daguerre Memorial," etc.

Wilson's Photographic Magazine (New York), in an article on "The Arrangement of Dress and Drapery," says: "If the intelligent photographer took pains to examine the pictures made at different studios, he would be surprised to see that in a large majority of them the self-styled artists had made ridiculous attempts to arrange draperies and 'work in' incongruous accessories which are no more in harmony with his subject than the man is with his profession. To improve himself and get the most artistic effect in his work the photographer will do well to study the paintings and statuary of celebrated modern artists. The many beautiful pictures reproduced by the different ink processes, and published at moderate prices, are now within the reach of all. He will also gain incalculable benefits from carefully reading the current photographic literature. Above all, he must be earnest in his desire to accomplish great things, and if he finds that after all his endeavours some one is dissatisfied, he can gather consolation from the poet who said:

'I've allus noticed, great success
Is mixed with troubles more or less,
And it's the man who does the best
That gets more kicks than all the rest,'"

Articles: "What Life, and Where," "The Value of Silver Waste," "Good Retouching," "On Aristotype Papers," "The Preparation of Transparencies and Opals by means of Chloride Collodion," "On the Permanence of Photographic Prints," etc.

Journal of the Photographic Society of India (Calcutta), speaking on one of the recent Exhibitions, says, "There is a strong feeling amongst those who say they know that, if medals are not freely offered to outsiders of both classes of workers, our exhibition walls will be covered with silver prints of that respectable mediocrity, which they suppose is the supremest effort of the Anglo-Indian amateur photographer. Now this contention is

not unreasonable if the only way of alluring the best pictures to our walls is by a liberal offer of medals. But is this the case? If the best pictures are necessary for educational purposes, and this may be granted, every one of the pictures sent by the home professionals might have been purchased, and sent out to us at probably less cost than we actually paid under the present system. And as regards the local professional photographers, who contributed not a little to the embellishment of our show, I have been told by one of the largest winners amongst them that they are not likely to feel aggrieved, should the Society decide to exclude them from medal-winning so long as they are all placed on the same footing." Articles: "The Indian Amateur Photographer," "The Lens," "Hand Camera," "Eikonogen v. Pyro," etc.

The *Studio* (New York) contains two full-page engravings, "The Ivory Casket presented to Columbus by Ferdinand and Isabella," and "The Descent of the Gypsies," and articles on "The Academy of Design Exhibition," "The Gabalda Collection," "The Terra-cottas of Tanagra and Asia Minor," "The Restoration of the Palazzo Ducale, Florence," "Annual Exhibition of the Royal Society of Painter Etchers of London," "Ancient Employment of Alabaster in Architectural Decoration in England," etc.

The *Art Review* is an exceedingly interesting number, and one of the most interesting points in it is a photo-gravure reproduction of Mr. D. R. Clark's photograph of the "Mosque of Sultan Achmet," recently exhibited at Belfast. The other articles are "The Golden Prime of Good Havonn Alvaschid," "Bourgeois de Calais," "Juliet and her Romeo," "Bores of the Galleries," etc.

The *Art Journal* contains a charming etching of "Winchester College from the Meadows," by Percy Robertson, and there is an article on the same subject by A. G. L'Estrange. The other articles are: "Painters' Studios," illustrated with reproductions of some of Ralph Robinson's charming pictures; "The Royal Palaces, Kensington," "The Summer Examinations," etc.

The *Photographer* (Cincinnati) gives us a supplement, a reproduction of Mr. H. P. Robinson's "He Never Told his Love," under the title of "A Morning Chat." In an article on "Failures," it says: "One cause of failure likely to be general as the spring advances, and the photographer is tempted to go out and meet her, is caused by the apparatus, which, if it can't lie, sometimes gets very thick in its speech, letting in daylight elsewhere than through the lens. We were recently puzzled to know why work done by a certain lens was sometimes wanting in quality—we say sometimes, for it was only now and then that it failed unexpectedly. An inspection of the lens showed it to be perfectly clean, and its tube quite dull. The stops were, however, rather bright here and there. The maker of the lens was asked to say how they could be blacked; a courteous reply was received that it would be glad to restore them. This done, and the bill paid—evidently some very expensive chemicals had been used—a further trial was made, but with the old results, sometimes all right, sometimes all wrong. As the lens was now above suspicion, the camera, which was thought to be all right, turned out to be the source of all the trouble. We found the extra rising front which was used with this lens to have become rather warped, and to let in enough light at the top to slightly veil the picture when the focussing cloth did not happen to cover it up." Articles: "Developing Positives with Hydroquinone," "Novel Application of Photography," "Albumen Paper for Blue Prints," etc.

THE PHOTOGRAPHERS' BENEVOLENT ASSOCIATION.—The adjourned general meeting on May 2nd, 1890, will be held at 181, Aldersgate Street, E.C., at 8 p.m.

PARKER'S MOUNTANT.—Messrs. Parker and Co., of 288, High Holborn, W.C., send us a sample of an effective mountant for photographs, which is entirely free from lumps, and only requires warming before using. In using this preparation the mount does not cockle, nor does it cause photographs to fade. From experiments made, we can recommend this mountant.

THE GUILDFORD AMATEUR ART ASSOCIATION held its first exhibition on the 22nd ult., and attracted a large attendance. The members of this Association, which has been in existence but for a few months, already number 125. Amateur photography was represented at the exhibition by several photographs by Mr. T. M. Brownrigg, Mr. W. Wainwright, and Miss Powell; the platinotypes of the last named being especially admired.

Science Notes.

MR. JOSEPH PENNELL—whose exquisite illustrations in the *Century* are so familiar to us—has written, and Macmillan has published, a sumptuous book on "Pen-Drawing and Pen-Draughtsmen: a Study of the Art of To-day." He deals largely with the photo-mechanical or "process" methods by which the work of the artist is now so frequently placed before the eye of the public.

Mr. Stanley took a set of photographic apparatus with him to the Congo, and, what is somewhat unusual with African explorers, he used it successfully; a fact which will be to the immense benefit of his forthcoming book. He is writing an article for the June number of *Scribner's Magazine*, which will also be illustrated "from his own photographs."

When Dr. Livingstone set out on his second expedition in South Africa he was supplied at a great expense, with a complete set of wet-plate apparatus, which weighed over a ton! Naturally it was left in a swamp soon after he commenced the difficult part of his journey. But some slight changes have taken place in photography since that time (about 1858); and the camera is as indispensable to the modern world-trotter as the revolver, and is usually found much more useful.

At the meeting of the *Linnean Society* on April 17th, Lord A. Russell, on behalf of the subscribers to a portrait of Sir J. D. Hooker, which had been painted by Professor Herkomer, formally presented the portrait to the Society. It was announced that a photogravure of the portrait would be presented, when ready, to every subscriber to the portrait fund. We consider this an excellent idea.

The 130th exhibition of the Royal Society of Painters in Water Colours is now open in Pall Mall. The critics say that there is a continuance of the increase in the size of the pictures, which has been noticed of late years, but which was "never so marked as on this occasion." We can say exactly the same thing about this year's photographic exhibitions. And we doubt whether at the next exhibition of the Photographic Society of Great Britain (held in the same gallery in Pall Mall) anything of less size than whole-plates (8½ ins. by 6½ ins.) will be seen on the walls.

"Make postage-stamp pictures if you like, but don't exhibit them," seems to be the tendency of the present day.

The contractors entrusted with the construction of the New Croton Aqueduct, New York, scamped their work terribly. The *Scientific American* reports that one of the assistant engineers, desirous of fortifying the commissioners with evidence of the bad work, and being an amateur photographer, went into the tunnel to take flash-light pictures. While engaged in the undertaking the man lost his camera, and the supposition is that it was spirited away. The contractors afterwards presented the engineer with a new camera.

The French scientist, M. Marey, has obtained consecutive photographs of moving objects which surpass everything that has hitherto been done in that direction. His results, as reported in *La Nature*, are obtained on a celluloid film of great length which is used in a roll-holder attached to what Marey calls his "photographic gun." Fifty exposures per second can be made.

One great element of success in Marey's work (not stated in *La Nature*, but known to us privately) is that he uses "Chevreul's black" as a background for the moving objects; which are themselves made as white as possible. This "Chevreul's black" is simply a cave of considerable size and depth, the opening of which faces north, and which is covered inside with black velvet. The moving object is photographed as it passes in front of this opening from which absolutely no light is reflected. Thus the horse, bird, or whatever the moving object may be, is photographed without any strong light from behind it; and its body stands out with great distinctness.

Instantaneous photographs which have been taken of a company of infantry just at the moment of their firing a volley (a) with ordinary gunpowder, and (b) with the new smokeless powder demonstrate conclusively the enormous advantage of the latter.

Professor Rood has shown that a flash of light lasting only the forty-billionth part of a second is capable of making an impression upon the retina of the human eye. We shall never get a dry plate as sensitive as that.

The comet discovered by Davidson in Queensland on July 21st, 1889, was photographed on July 30th, at the Lick Observatory

with the new Willard lens, and an exposure of ninety minutes. The comet possessed a round head and a fan-shaped tail, and its light was calculated to be, photographically, only the ten-millionth part of that of the full moon.

A German chemist has succeeded in producing a new red glass of good quality, which it is hoped will be useful in photography. It is made by melting together the following ingredients:—Fine sand, 2,000 parts; red oxide of lead, 400; carbonate of potash, 500; lime, 100; phosphate of lime, 20; cream of tartar, 20; borax, 20; red oxide of copper, 9; and binocide of tin, 13. By a single melting a transparent red glass is obtained, of which various objects can be manufactured directly, without its being necessary to submit the glass to a second heating with the view of intensifying the colour, as is usually the case.

Photographers visiting Stratford-on-Avon are usually rather taken aback when they find a fee of one guinea demanded for permission to take a camera into the birthplace, and a second guinea if they wish to photograph in the church. The rooms in Shakespeare's House or birthplace are so small and empty as to be of little use to the travelling "shadow-faker;" but the church is really fine, and if the fee were half-a-crown we think that many would not grudge it.

Half-a-dozen workers who visited Stratford at Easter managed to get off rather cheaply by working on the co-operative system. As it happened, they were all using cameras of the same size (half-plate) and by the same maker. They gave all their dark-slides to one man, and he paid his guinea, went inside and exposed the entire batch of plates!

"Thursday Evenings" at the Camera Club.

BY ONE OF OUR STAFF.

ON Thursday, April 24th, the subject was "Treatment of Subject by Focus;" which Mr. Dallmeyer re-opened by recapitulating the points made in his paper at the Conference. Captain Abney occupied the chair.

Previous to the reading of the paper the Hon. Secretary handed round a copy of the latest number of *Sun Artists*, just received, which was devoted to presenting examples of the work of Mr. J. B. B. Wellington.

Mr. Dallmeyer, in his lecture, replied to criticisms passed in the discussion at the Conference emphasising his contention that to portray a subject as the eye sees it, the chief plane of interest should be better defined than the others, for the eye has to alter its focus for different planes up to a certain and considerable distance. From the experience of the artist, Mr. Davis Cooper, who for many years has lost the use of one eye, it would seem that there is an alteration of focus for planes within a distance of about sixty yards. Uniformity of definition robbed the lens (which was single-eyed) of conveying solidity, an effect only to be fully gained on a plane surface by contrast in definition.

Mr. Clark opened the discussion with a short paper, and an animated controversy was kept up for some time by Messrs. Davison, Elder, Balfour, Tomlinson, Captain Abney, Rev. F. C. Lambert, and Dr. Patterson, to whose remarks Mr. Dallmeyer replied.

On Thursday, May 1st, Captain Abney read a paper on "Pin-holes," and on Thursday, May 8th, there will be an exhibition of lantern-slides from negatives recently taken by Mr. D. R. Rodgers and Major Nott in Egypt, and by Mr. H. M. Elder in Madeira.

HOME PORTRAITURE PICTURES.—We have returned all photographs sent in to our recent "Home Portraiture Competition," for which stamps were sent, and the remaining prints will be returned upon receipt of stamped addressed label before May 10th, otherwise they will be devoted to our "Collection for Hospitals."

NORTH KENT AM: PHOT: SOC:—A meeting of this society was held on Thursday, April 24th, Mr. T. C. Johnson, J.P., President, in the chair. Mr. F. Boorman was elected a member of the society. There was no set paper for the evening, but a pleasant and instructive discussion took place among the members present. The President showed some views.

Exhibitions.

GLASGOW AND WEST OF SCOTLAND AMATEUR PHOTOGRAPHIC ASSOCIATION.

THE annual Exhibition of this Society was opened on Saturday last, at the rooms of the Society, which are not well suited for such an Exhibition, as the light is got from windows at the side of the rooms, instead of coming from above, so that the pictures are more or less irregularly and imperfectly lighted. It would be a great advantage to the Exhibition and to the Society itself to have the annual display in premises better adapted to the purpose. There are in all 108 exhibits, mostly in sets of three each; these are divided into ten classes in the competitive section, composed of landscapes, figure studies, instantaneous, portraits, groups, animals, still-life and interiors, enlargements, transparencies, and developed prints.

In the Landscape Class the first prize has been awarded to Mr. D. R. Clark's exhibits, one of which is a delicately toned print by Blanchard's process, and which is titled "The Trysting Tree." This picture has been successful in gaining the AMATEUR PHOTOGRAPHER Silver Medal for the most artistic picture in the Exhibition. The second prize has been gained by a very nice frame of three pictures by Mr. C. J. Shaw, and the third prize is awarded to Mr. George Sherriff for three prints done by Blanchard's process, but rather dark in tone. The principal feature in the small-size landscapes are some studies in Brittany by Mr. R. H. Elder, who gains the first and third place; his pictures are sharp and nicely chosen but rather under-exposed. The second prize falls to Mr. John Morrison, jun., who well deserves the position, for three nice little hand-camera pictures full of detail and nicely lighted.

In the Figure Studies the only prize awarded falls to Mr. D. R. Clark for three pictures, one of which "Two a Penny," is rather clever in arrangement. His other pictures are "The Army of the Future," representing a number of tiny little boys playing at soldiers, and "A Funny Story," a shoeblack laughing at a story he has been reading. Miss Lang shows three nice pictures in this class, but they are small and too high placed on the wall to do them justice. It is a pity to see so few exhibits in the Figure Study Class, which should bring out the originality and artistic quality of the members of the Society.

In the Portrait Class, Mr. Taylor is awarded the prize with three nice heads, but the other exhibits in this class are so poor that the judges have not considered it necessary to give a second prize. The same applies to the groups where only the first prize is awarded to Mr. Alexander.

Mr. James Fleming is first in the Animal Class, with three nice exhibits.

In the Instantaneous Class Mr. G. Sherriff is first with three pictures, one of which, entitled "Before the Wind," is remarkably good, although the tone of Mr. Sherriff's prints does not do justice to the pictures. The second prize falls to Mr. T. Steven, jun., for three yacht studies, the centre one being particularly good, having been taken against the sun, with a bank of white clouds behind the yacht, which balances the picture nicely.

In the Interiors and Still-Life Class, Mr. D. R. Clark is again first with three large pictures of the Municipal Buildings, Glasgow. They are printed on Obernetter paper, and although the glazed surface represents, no doubt, well enough the marble of the walls, yet they might have looked as well and more artistic if printed in platinotype. The second prize is awarded to Mr. T. Steven, jun., but his exhibits are rather under-exposed, although interesting in subject. In this class Mr. Geo. Sherriff's interiors are worthy of notice, but slightly foggy in one case. Mr. James Fleming has also three very nice flower studies, which are put in the same class.

Mr. Watson is awarded the prize for three very good lantern slides in the Transparency Class.

There is a class for Developed Prints, and Mr. J. Ure Primrose carries off the first and second prizes in this class. We think the order might have been reversed, and the three pictures placed second should have been first, as they show more artistic feeling than those placed first, the picture of a steamer with the smoke in wreaths behind being the best of the lot, and nicely printed. In this class Mr. Dove's studies are good, his "Glen Rosa" being a prettily toned picture; but we hardly think it can be a de-

veloped print, it looks more like one done with Blanchard's process. We are at a loss to know why there should be so many classes in a comparatively small exhibition like this, and it is surely unnecessary nowadays to make a separate class for developed prints.

In the adjoining room are exhibited the non-competitive pictures, among which we notice five of Mr. Clark's, which we have previously seen in the Prize Tour Competition. Mr. Fleming has also some in this class which are good.

The Enlargements have brought forward five competitors, and they are all very indifferent in quality. Mr. Watson obtains first prize, but only one of his pictures, "Faleide, Norway," is good. Mr. Morrison's enlargements from hand-camera negatives are too big; if they had been a third of the size they would have been more effective. The other enlargements are of the usual soot and snow type, and the judges have not considered any of these exhibits worthy of a second prize.

We trust that the Glasgow and West of Scotland Association next year will open their exhibition to exhibitors from other parts of the kingdom, so that the members may have an opportunity of testing their work in open competition with other amateurs.

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ULSTER AMATEUR PHOTOGRAPHIC SOCIETY EXHIBITION.

THE fourth annual Exhibition of the Ulster Amateur Photographic Society, opened in the Art Gallery of the Free Library, Belfast, on Monday, is a decided advance on the three former Exhibitions. It is the second at which competition has been invited from "across the water," and it is curious to note that, while England, Scotland, and Wales are all represented, there is not a single picture by a "native" who is not a member of the Society! The room in which the Exhibition is held is admirably suited to the purpose, being built as an art gallery, and lighted entirely from the top. A rail runs round the room at a short distance from the wall, protecting the pictures from injury by those enthusiastic persons who desire to point out their favourite "bits" with more vigour than discretion. There are 126 frames for competition; 74 in the section devoted to members, and 52 in the open section. These are distributed over 15 classes—for of the 21 classes, two are for "best prints" and included in others, two are for lantern slides, and in two there is no competition. Besides these, there is a large number of frames not for competition, and a special feature of the "show" is a splendid collection of pictures by Mr. Harry Tolley, of Nottingham. These have recently been on view in Liverpool, and Mr. Tolley most kindly lent the complete set of fifty 15 by 12 photographs. The inhabitants of the Emerald Isle will now have a good chance of seeing "how it's done."

Class 1 is divided into two sections, in each of which there is a good competition—eleven entries in Section A, for four pictures any size, and six in Section B, for six pictures not larger than half-plate. In the first section Dr. Coates, who has no less than four sets, takes both first and second places. The silver medal is awarded to four silver whole-plate prints, Nos. 8, 9, 10, and 11. No. 8, "A Tree Study," is a very fine piece of work, the detail (forgive him, Dr. Emerson!) being wonderful, but the two cottages, real Irish ones, 10 and 11, are not so artistic, though perhaps equal from a technical point of view. The second prize set is in Aristotype (and here we may remark that the judges have all through shown a decided liking for glazed surfaces). In two of these, No. 2, we have two views of a waterfall at Glenariffe, in which Dr. Coates has been singularly happy in giving the proper effect of a thin sheet of water. Dr. Cecil Shaw, the Hon. Sec. of the Society, shows four good cold-bath platino prints, the best being 19, "An Old Church, Hertfordshire," but the most artistic is 14, "On the Strand," a study of horses and carts on the sea shore, in which the lights and shades are well balanced. Mr. Alex. Tate, C.E., Vice-President, shows four 12 by 10 silver pictures, one of which, 32, a view of a country house through trees, has been selected by the judges as the best print by a member, so obtains the medal in Class 10.

We now arrive at Section B, in which the silver medal goes to Mr. J. J. Andrew, for a set of 5 by 4 silver prints, No. 43. The bronze medal is gained by Mr. T. L. Buck, with a capital set of half-plates in platinotype, "As Shadows Fall" (39) and "The First of the Season" (40), being charming. The latter is a little village lad seated on the bank of a brook, gazing in admiration

on a small trout which he has just landed. Mr. William Swanston, Vice-President, has three sets, 46, 47, and 48. The first and third are charming bits of Norwegian scenery, from film negatives, and the second set, in gelatine or chloride, also from films, are "Quay-Side Scenes in Belfast." The last set has been awarded an honourable mention, of which it is well deserving. Another honourable mention is given to Mr. T. B. Scott, who has a set of half-plate views in aristotype.

In Class 2 there is one frame, but no award is made. The scarcity of instantaneous work can only be attributed to the very small quantity of sunshine vouchsafed to the North of Ireland last summer.

In Class 3 (Portraits) Mr. W. J. D. Walker takes the medal with a set of six groups and single pictures of children. We commend them—the children—to any ladies visiting the Exhibition, as most healthy-looking specimens. "The Cruise of the Clothes Basket" (No. 59) is perhaps the best; two youngsters in a big basket, setting out on a voyage of discovery over the nursery floor. The small boy being in sailor dress adds to the effect.

In Class 4, as in Class 17, we can offer no criticism, not having seen the Lantern Slides, which are shown on the screen each evening.

In Class 5 only two members sent Enlargements, and no award is made.

The next class represented on the wall is Class 8, where, though no more than two "Juniors" appear, the judges have awarded a bronze medal to each, their work being so exceedingly creditable. Mr. T. L. Buck sends six rustic studies in different printing processes. No. 71, "Happy," on Ilford bromide paper, is a well-chosen group of small boys playing marbles. Mr. T. F. Bell has six landscapes of the foliage and water class, on Obernetter paper, showing a microscopic fineness of detail. In Class 9 the same gentleman gains the medal with six excellent studies in the Dublin Zoo.

At Class 11 we come to the second section of the exhibition—open to all amateurs. This class is for landscape. The silver medal for the best picture falls to Mr. J. E. Austin, of Maidstone, for his beautiful picture, "A Glimpse of the Old Home" (No. 76). The bronze medal in this class goes to Mr. D. R. Clarke, M.A., of Glasgow, for a large print in Blanchard platinum, "The Trysting Tree." This recently took the highest honours in Glasgow, and runs Mr. Austin's picture very close.

Class 12, for "Six Animal Studies," draws only two competitors, and the medal goes to Mr. F. Wingrave Hardy, of Coventry, who sends a good series of studies of sheep and cattle in pasture. Most of these might be entered as landscape, and all are really picturesque. The other frame is by Mr. W. H. Kitchin, of Cardiff, who sends six pictures, "At the Zoo."

Class 13, for "Six Architectural Pictures," is one of the largest and best in the Exhibition. The silver medal is awarded to Mr. D. R. Clark, of Glasgow, for three large interiors "In the Municipal Buildings, Glasgow," "Clairmont Drawing-room," "Sultan Achmet's Mosque," and "Glasgow Cathedral Interior"—a large and varied selection, certainly! The first of these, a marble stairway, printed in Blanchard platinum, receives the silver medal in Class 21, as the "Best Print in the Exhibition," and well deserves it, we think. A third award falls to Mr. Clark for the fifth of his series—the Ilford bronze medal, of Class 19, for the second-best picture from a negative on an Ilford plate. The "Mosque of Sultan Achmet," which obtains this distinction, is a marvel of detail, showing the magnificent inlaid marble of the interior, with its hundreds of hanging lamps. Mr. Alex. Tate, C.E., a Vice-President of the Society, takes the bronze medal with a series of six silver whole-plate prints—five of which are ecclesiastical architecture. "Becket's Crown, Canterbury Cathedral," is capital, as is also "Christ Church Cathedral, Dublin." The sixth of the series, "Galilee Chapel, Durham Cathedral," suffers slightly from non-perpendicular lines.

In Class 14 (Genre Picture, illustrating "The Village Blacksmith") the silver medal presented by the editor of *Photography*, goes to Mr. Benj. Karleese, of Birmingham.

The prize of three guineas for Figure Study on Fry's plate, in Class 15, is taken by Mr. S. F. Clarke, of Louth, Lincolnshire, for a rather theatrical group of three girls in fancy dress, "Fortune Telling."

Class 16 is for Landscape or Interior on a Fry's plate, and here the prize of two guineas goes to Mr. J. E. Austin for "Ebb Tide and Day" (No. 107), a vigorous platinotype print, with remarkable, but by no means impossible, clouds.

Class 17 is for Lantern Slides on Fry's plates, the prize of a guinea and a half being taken by Mr. S. F. Clarke. The same gentleman—evidently an ardent admirer of Messrs. Fry—takes the guinea prize in Class 18, for the best print on Fry's paper. This is "What Love Hangs By" (No. 119), a clever and amusing picture of a young woman sewing a button on her young man's waistcoat. She is just biting off the thread, and he is looking into her face, apparently contemplating osculatory payment!

Class 19, for pictures taken on Ilford plates, produces a large number of competitors, testifying abundantly to the extreme popularity of this make. The silver medal is awarded to Mr. J. E. Austin's "Cooling Waters," a study of cattle in a stream. No doubt it may be the best picture, but if the award were made with reference to the quality of plate showed by the picture, we think it would be better given to "Watching the Trout," by the same gentleman. This shows splendid "pluck" and vigour, with very fine detail. As already noticed, the bronze medal goes to a picture also entered in Class 13. "The Haunted House" (No. 115), by Mr. John W. Beaufort, Malvern, is an extraordinary "Ghost" picture.

In Class 20, for the best Enlargement on Ilford paper, there are eleven entries. The silver medal goes to a small and wonderfully sharp picture by Mr. Kitchin, "The Village Smithy;" while the bronze is taken by Mr. J. W. Beaufort, with a "Gleam of Sunshine," a really splendid enlargement from a quarter-plate.

Among the pictures not for competition is some excellent work, and a whole wall is devoted to the magnificent collection of Mr. Tolley's pictures mentioned above. Altogether the exhibition is a decided success for the Ulster Society, which is still young, but shows every sign of healthy growth.

AWARDS.

Open to Members of the Society.

Class 1 (Section A, Landscape, any size, four pictures).—1st, silver medal, S. B. Coates, M.D.; 2nd, bronze medal, S. B. Coates, M.D. Section B. (Landscape, half-plate or under, six pictures).—1st, silver medal, J. J. Andrew; 2nd, bronze medal, T. L. Buck; Honourable Mention, Wm. Swanston, F.G.S., T. B. Scott.

Class 2 (Instantaneous).—One competitor, no award.

Class 3 (Portraits, six pictures).—1st, bronze medal, W. J. D. Walker.

Class 4 (Lantern Slides, six).—1st, silver medal, J. J. Andrew; 2nd, bronze medal, D. Brown.

Class 5 (Enlargements, two).—Two competitors, no award.

Class 6 (Micro-photographs).—No competition.

Class 7 (Pictures done on Society's Excursions in 1889).—No competitors. (Excursions a failure, on account of the wet season.)

Class 8 (Juniors, any subject, six pictures, by a member who has begun work since January 1889).—Equal 1st, bronze medals, T. L. Buck, T. F. Bell.

Class 9 (Natural History Subjects, six).—1st, bronze medal, T. F. Bell.

Class 10 (The best print in the Exhibition, by a member).—AMATEUR PHOTOGRAPHER Silver Medal, Alex. Tate, C.E.

Open to all Amateurs.

Class 11 (Landscape, best picture).—1st, silver medal, J. E. Austin, Maidstone—"A Glimpse of the Old Home"; 2nd, bronze medal, D. R. Clark, M.A., Glasgow—"The Trysting Tree."

Class 12 (Animal Studies, six).—1st, silver medal, F. W. Hardy, Coventry—Cattle and sheep in pasture.

Class 13 (Architecture, six pictures).—1st, silver medal, D. R. Clark, Glasgow; 2nd, bronze medal, Alex. Tate, C.E., Belfast.

Class 14 (Genre Picture).—"The Village Blacksmith."—1st, silver medal, presented by Editor of *Photography*, Benj. Karleese, Birmingham.

Class 15 (Figure Study, from negative on Fry's plate).—1st, three guineas, S. F. Clarke, Louth, Lincolnshire, "Fortune Telling."

Class 16 (Landscape or Interior, from negative on Fry's plate).—1st, two guineas, J. E. Austin, Maidstone, "Ebb Tide and Day."

Class 17 (Lantern Slides, six, on Fry's plate).—1st, one and a half guineas, S. F. Clarke, Louth.

Class 18 (Print on Fry's Argentotype paper).—1st, one guinea, S. F. Clarke, Louth, "What Love Hangs by."

Class 19 (Best picture from a negative on an Ilford plate).—1st, silver medal, J. E. Austin, "Cooling Waters"; 2nd, bronze medal, D. R. Clark, "Mosque of Sultan Achmet."

Class 20 (Best Enlargement on Ilford paper).—1st, silver medal, W. H. Kitchen, Cardiff, "The Village Smithy;" 2nd, bronze medal, J. W. Beaufort, Malvern, "A Gleam of Sunshine."

Class 21 (Best Print in the Exhibition).—1st, silver medal, D. R. Clark, Glasgow, "Interior Municipal Buildings, Glasgow."

Judges.—Mr. Hugh Reid, ex-President Glasgow Amateur Photographic Association; Mr. Wm. Tomkinson, Vice-President Liverpool Amateur Photographic Association; Mr. George Trowbridge, Head Master, Belfast Government School of Art.

Notes from the Liverpool Centre.

(From our District Editor.)

I HAVE been shown several studies taken last week, which speak eloquently of the present favourable conditions of weather and atmosphere for outside work. Should the same conditions rule to-morrow (Saturday), the excursion of the Liverpool Association to Ledsham and Burton will be very largely attended.

Several local gentlemen have crossed the Irish Channel to Belfast purposely to see the Belfast show, opened last Monday. Mr. T. S. Mayne and Mr. W. Tomkinson, the latter a judge in the function, journeyed together. The adjudicating, I hear, was satisfactorily disposed of on Saturday. The exhibits embrace excellent work. Messrs. Mayne and Tomkinson are making one or two visits to Dublin and other towns during their short stay in Ireland.

The Birkenhead Photographic Association, in a few months, is likely to have an excellently appointed building at its command. The "city of the future," as it has long been styled by Cestrians, is lamentably behind-hand in the way of public institutions, and at present may be said to be almost entirely without a building suitable to a scientific or art society. But this is to be remedied. A speculator, or a company, is about to build a large hall in the town suited to educational and scientific bodies, and the building is to be fitted up with dark-rooms and all accessories for photographic purposes. The Birkenhead Photographic Association will, I understand, have the first refusal of the new hall. The carrying out of the scheme cannot fail to benefit the Birkenhead Society in a large degree.

The ordinary meeting of the Liverpool Association held on the 24th ult. was numerously attended and exceptionally instructive. Mr. J. A. Forrest, who read a paper on "The most effective means of Preventing Light getting to the Sensitive Plate while in the course of Development in the Dark-Room," and who undertook to explain "the cause of fog on lantern-slide covering glasses," is a large glass manufacturer and merchant in Liverpool, a past member of the Liverpool City Council, and an old worker in photography and art. His contributions to the night's procedure were highly interesting, as were those of Mr. F. Vaughan, who demonstrated on "Photography as applied to Letterpress Printing." Mr. Vaughan is a young man lately settled in Liverpool with a partner, as photo-engravers, zincographers, etc.

Apropos of the fortnightly demonstration on Wednesday night, at the Liverpool rooms, I had a long controversy with a young member of the Society. He assures me that the younger members of the Society, with the inexperienced of older growth, set much value on the practical demonstrations. They are not only entertaining and instructive, but they save novices endless trouble and anxiety. Mr. J. L. Mackrell, late Secretary to the Birkenhead Association, was one of the first to suggest practical demonstration evenings, as he was one of the first to offer his services as a demonstrator. My personal knowledge of Mr. Mackrell is that he is very popular with his colleagues, and much sought after by young members. At outdoor meetings he usually has a batch of novices under his charge, taking a special interest in their advancement. He is young himself, has been in photography between four and five years, and holds a number of medals, including one from the AMATEUR PHOTOGRAPHER. Finally, he is self-taught. Mr. J. MacDonald Bell and Mr. H. Wilkinson were the demonstrators; subject, "Printing and Toning of Silver Paper"—including Obernetter and Aristotype papers.

The Lantern Society.

THE inaugural meeting of the new society bearing this title, and having for its chief objects the development and the popularisation of the optical lantern, took place in the theatre of the Society of Arts, on Friday last, when some 200 ladies and gentlemen attended.

The Chairman of the Council, the Hon. Slingsby Bethell, prefaced the demonstration by an apology for the impromptu nature of the programme, which he said was due less to a lack of resources than to an earnest desire to make an early beginning, with the view to placing the claims of the new body well in the foreground. Having explained that the session proper would commence on the 1st of October next, and that all applications for membership received in the interval would be treated as belonging to the year then to be entered upon, he appealed to all present who were interested in the optical lantern to bring the claims of the society before their friends at the first fitting opportunity, and, continuing, said it had been agreed that the programme of the society might be best carried out—

(1) By the engaging of premises in some central position in London, at which the meetings of the Council and of the society might be held.

(2) By acquiring suitable apparatus for the purpose of giving exhibitions of general and scientific interest to both members and their friends.

(3) By obtaining the services of specialists in every branch of art or science suited to optical demonstration.

(4) By offering—as far as the funds of the society will permit—remuneration or rewards for the development of the optical lantern, and of all apparatus pertaining thereto.

(5) By imparting instruction to those who are desirous of learning how to effectively manipulate the optical lantern, to produce slides and apparatus, and to efficiently employ the same both in private and in public.

(6) By securing for the members of the society special and advantageous terms from manufacturers and others for the purchase or loan of apparatus and slides.

(7) By forming a large and comprehensive loan collection of lantern transparencies pertaining to art, science, and kindred subjects; such loan collection to be placed at the disposal of every member, upon conditions to be laid down by the Council.

(8) By providing a means of inter-communication between the members of the society, whereby each member may be made acquainted with the private collections of his fellow-members, and may be able to negotiate a mutual loan if so desired.

(9) By arranging an interchange of demonstration between photographic, microscopical, and other societies interested in optical lantern work.

The Chairman further remarked: "The marvellous powers of photography to illustrate and bring home to the mind in the most striking and faithful manner (especially by means of the optical lantern) the glories and beauties of Nature, the treasures of art, and the wonders of science, induce us to hope that, by drawing together persons thus interested, a powerful Society might be formed on an intellectual, educational, and scientific basis, with a recreative and social side, and of which our present meeting is but a crude and incomplete example."

"Although not a 'club' in the usual sense of the word, still we hope soon to have a suitable habitation, where meetings of members will be held, papers read, discussions encouraged, and some photographic work carried on."

"Composed, as I believe we shall be of scientific and practical men, of professional as well as of amateur photographers, of those learned in chemical, microscopical, and optical science generally, constructors and designers of every description of apparatus, we shall endeavour, at least, to benefit and instruct each other (if not those unconnected with us) and bring to greater perfection in all its phases and aspects (technical as well as artistic) this particular branch of the art and science which we have adopted for study."

"Another aim that the Society has in view is the formation of a large loan collection of lantern slides, complete in its classification, arrangement, and method of illustration."

"As we advance, scientific and photographic societies, educational bodies, schools, institutes, etc., will have facilities of affiliating themselves to us, and thus obtaining much assistance from our extensive photographic library, so to speak. Members will, of course, receive this privilege to a larger extent, and many more,

for eventually we hope to offer them additional advantages, viz., the use of dark-rooms and laboratories for all photographic operations, the production of lantern slides in particular.

"America has already made great strides with the optical lantern, so we shall endeavour to put ourselves *en rapport* with our cousins across the Atlantic, and to interchange with them for photographic illustrations of their grandest wonders of nature, representations of some of our homely, but lovely scenery.

"Welcoming, as members of the Lantern Society, all thus interested, we shall develop I trust into a large and influential body, competent and willing to place any fresh knowledge and experience that we may acquire within the reach of others of like tastes.

"Finally, growing in strength, we may number amongst our body members, practically and scientifically more learned in particular branches of science, who will come forward and initiate us into the meaning, mysteries and beauties of many of our unappreciated photographic illustrations."

Following the address of the Chairman—which was cordially received—there were projected upon the screen about 130 very fine slides, divided into three different lots.

The proceedings were much enjoyed, and more than one application for membership was made in the room.

In the interval that elapses before the programme of the Society is entered upon in earnest, the Council will be busily engaged in drafting bye-laws, selecting suitable accommodation for the future home of the Society, and the Honorary Secretary, Lieutenant C. E. Gladstone, R.N., will be pleased to forward full particulars and applications for membership upon receipt of a postcard at 6, Bolton Street, Piccadilly, W.

Apparatus.

MR. ROBERT ABRAHAM has shown us several novelties—first his "Victor" hand-camera, which has a most ingenious attachment for lifting the plates into the changing bag, by raising the lid only. This action or motion also sets the shutter. The camera is fitted with Abraham's Challenge R.R. lens, of $5\frac{1}{2}$ inch focus, two finders, carries 14 plates, and when loaded weighs only 5½ lbs. For a cheap (£5 3s. 6d.) hand-camera it is a serviceable article. We offered a suggestion as to the method of lifting the

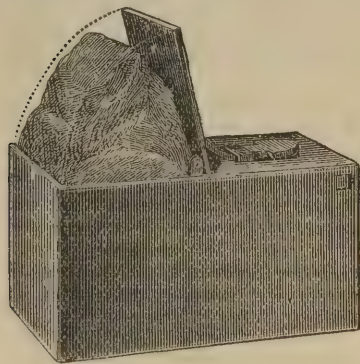


Fig. 1.—THE CAMERA, SHOWING CHANGING BAG.

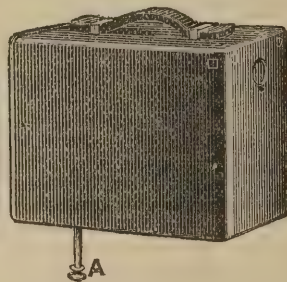


Fig. 2.—THE "IDEAL."

plate, which will, we believe, be adapted to this camera for the future. The "Victor" has an adjustable focusing arrangement by which objects can be photographed at distances ranging from five to twenty feet, beyond which all things are in focus.

We also have had an opportunity of examining the "Ideal," and are much pleased with it. The plates are stored in an upper chamber, and drawn down into position for exposure by means of a bolt, which, returning, brings down the next plate, each draw of the bolt registering the number of the plate; the movements are carefully thought out. This camera has an excellent shutter, which can be timed to give an exposure of any duration, and for speeds varying from half a second to the 100th of a second. The shutter works in the diaphragm slot, and is well-made, and certainly one of the best we have seen. The "Ideal" is fitted with a Laverne lens, working at $f/11$. Intending purchasers will do well to see both these cameras.

Another novelty of Mr. Abraham's is a walking-stick tripod, which we illustrate. It is most ingenious, quite rigid enough for

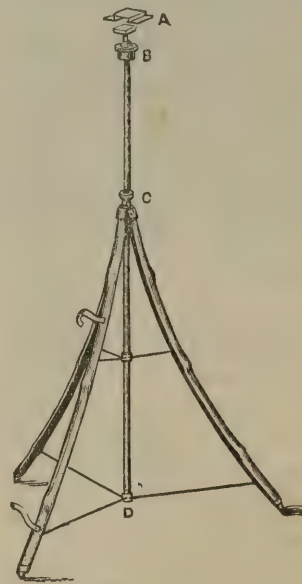


Fig. 3.—WALKING-STICK TRIPOD.



Fig. 4.—TRIPOD CLOSED.

hand-camera work, and a useful companion on a lonely road. It weighs $1\frac{1}{4}$ lbs., is made of metal and bamboo, and is constructed upon the same principle as an umbrella.

* * * *

MESSRS. W. W. ROUGH AND Co., of 180, Strand, have kindly given us an opportunity of examining their "Eureka" detective camera, which has been improved, and can now be used for plates or films. It is fitted with an R.R. lens of 5 in. back focus. The chamber holding plates is detachable, and any number can be supplied, each made to hold twelve plates, so that the work to be done without loading or changing has no limit. The plates are all in sheaths, which



Fig. 1.—CAMERA COMPLETE.

can also be supplied to carry films if desired. They are changed by means of a lever lifting them into a changing-bag, which permits of easy manipulation. A blind shutter is fitted, which can be arranged for time or instantaneous exposures if required.



Fig. 2.—CHANGING CHAMBER.

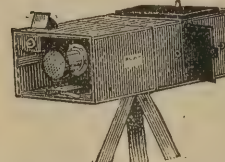


Fig. 3.—CAMERA ON TRIPOD.

When the plate chamber is taken over, the camera is fitted with focussing screen, and can be used as an ordinary camera on tripod. For detective work, a finder, which is in correct register with the lenses, is provided. The "Eureka" detective camera is the handiest and most unobtrusive apparatus in the market.

"AMATEUR PHOTOGRAPHER" CERTIFICATES.—We should be pleased to know the address of the following gentlemen: Messrs. J. A. Randell, W. P. H. Foster, L. A. Burrows, and V. W. Delves Broughton, for whom we hold "certificates," also of Col. C. O. Ellison, Liverpool.

COLCHESTER CAMERA CLUB.—On April 14th the members of the above club to the number of forty met to witness a demonstration by the Britannia Co., Ilford, in their "Alpha" paper and lantern slides. Both paper and slides were shown to give excellent warm tones, besides being easy to work. The demonstrator was severely questioned, but was always ready with an answer. Mr. Winch, a member, kindly lent about 700 photographs for the use of the members.

Register of Dark-Rooms, 1890.

WE have pleasure in publishing preliminary list of towns in which "Dark-Rooms" have been placed at our disposal.

We class them in four divisions, *i.e.*, *a* amateur, *d* dealer or professional, *h* hotels, and *s* photographic societies.

In our letter of introduction full particulars are given as to owner, address, charges (if any); plates, chemicals, etc., kept by dealers; terms for temporary membership of societies; hotels; distance from station, etc., etc.

Every application for letter of introduction must be accompanied by SIX PENNY STAMPS. The owner of "Dark-Room" will be advised by same post as the applicant.

<i>d</i> Amble	<i>d</i> Great Yarmouth	<i>d</i> Nottingham
<i>d</i> Andover	<i>a</i> Halifax	<i>d</i> Nottingham
<i>a</i> Aylesbury	<i>d</i> Handsworth	<i>d</i> Northallerton
<i>d</i> Barmouth	<i>d</i> Harrogate	
<i>s</i> Bath	<i>d</i> Hastings	<i>a</i> Oxford
<i>d</i> Belfast	<i>d</i> Hereford	
<i>d</i> Berlin, Germany	<i>d</i> Hexham	<i>d</i> Pershore
<i>a</i> Birmingham	<i>d</i> Huddersfield	<i>a</i> Perth
<i>d</i> Bodmin	<i>d</i> Hull	<i>a</i> Pickering
<i>d</i> Bournemouth		<i>h</i> Port Erin, Isle of Man
<i>d</i> Bournemouth	<i>d</i> Ilfracombe	
<i>d</i> Bradford	<i>d</i> Ipswich	<i>d</i> Reading
<i>d</i> Bramley, near Leeds	<i>d</i> Jarrow	<i>d</i> Richmond, Surrey
<i>d</i> Brechin, N.B.	<i>d</i> Jersey	<i>d</i> Ringwood, Hants
<i>d</i> Bridlington Quay	<i>d</i> Keighley	<i>d</i> Royston
<i>d</i> Brighton	<i>s</i> Kendal	
<i>d</i> Bristol	<i>a</i> Kimberley	<i>d</i> St Bees
<i>d</i> Bristol	<i>d</i> King's Lynn]	<i>d</i> St. Helens
<i>d</i> Bromley	<i>a</i> Kingstown, Dublin	<i>d</i> St. Helier
		<i>d</i> St. Leonards
<i>d</i> Cambridge	<i>d</i> Lancaster	<i>d</i> Scarborough
<i>d</i> Cheltenham	<i>d</i> Larne	<i>d</i> Scarborough
<i>d</i> Chepstow	<i>d</i> Leamington	<i>a</i> Shaftesbury
<i>d</i> Chester	<i>h</i> Ledbury	<i>d</i> Shanklin, Isle of Wight
<i>d</i> Chester	<i>d</i> Leeds	<i>d</i> Shrewsbury
<i>a</i> Chesterfield	<i>d</i> Leeds	<i>h</i> Southampton
<i>a</i> Chipping Norton	<i>d</i> Leeds	<i>a</i> Southport
<i>a</i> Cinderford	<i>a</i> Leeds	<i>d</i> Southsea
<i>d</i> Clifton	<i>d</i> Leicester	<i>s</i> Southsea
<i>d</i> Colchester	<i>d</i> Leicester	<i>a</i> Stamford
<i>d</i> Colchester	<i>a</i> Leicester	<i>a</i> Steyning
<i>a</i> Coniston	<i>a</i> Lenzie, N.B.	<i>d</i> Stockton-on-Tees
<i>d</i> Crewe	<i>d</i> Lincoln	<i>a</i> Stourbridge
	<i>s</i> Liverpool	<i>d</i> Stratford-on-Avon
<i>d</i> Darlington	<i>d</i> Liverpool	<i>d</i> Stroud
<i>d</i> Devizes	<i>a</i> London, W.C.	<i>d</i> Sunderland
<i>a</i> Doncaster	<i>d</i> London, High-gate	<i>d</i> Swindon
<i>d</i> Douglas, Isle of Man	<i>d</i> London, New Cross	
<i>d</i> Dublin	<i>a</i> London, Chelsea	<i>a</i> Tenby
<i>d</i> Dundee	<i>d</i> London, Croydon	<i>h</i> Tintern Abbey
<i>a</i> Dungarvan	<i>d</i> London, E.C.	<i>d</i> Torquay
<i>a</i> Duns	<i>a</i> Long Eaton	<i>d</i> Torquay
<i>d</i> Durham	<i>a</i> Loughborough	<i>d</i> Tunbridge Wells
	<i>a</i> Louthborough	
<i>d</i> Edinburgh	<i>d</i> Lynn	<i>a</i> Vienna
<i>d</i> Edinburgh	<i>a</i> Lythe, Whitby	
<i>d</i> Edinburgh		<i>a</i> Waterford
<i>s</i> Egremont	<i>a</i> Madeley, Salop	<i>a</i> Wellington, Salop
<i>a</i> Enfield Town	<i>a</i> Mainz, Germany	<i>s</i> West Hartlepool
<i>d</i> Evesham	<i>d</i> Malvern	<i>d</i> Windsor and Eton
<i>d</i> Exeter	<i>d</i> Mansfield	<i>d</i> Wisbech
	<i>d</i> Margate	<i>a</i> Wolverhampton
<i>s</i> Falkirk	<i>d</i> Minehead	<i>a</i> Worcester
<i>d</i> Folkestone	<i>d</i> Montrose, N.B.	<i>d</i> Worthing
<i>a</i> Frodsham		
	<i>d</i> Newcastle-on-Tyne	<i>s</i> York
<i>d</i> Glasgow	<i>d</i> Newport (Mon.)	<i>d</i> York
<i>s</i> Glasgow	<i>a</i> Niton	<i>a</i> York
<i>d</i> Gloucester	<i>d</i> Norwich	<i>d</i> Youghal
<i>a</i> Goring		

Societies' Meetings.

NOTE.—In this column the Editor can, of necessity, only give a brief summary of the proceedings. The PHOTOGRAPHIC SOCIETIES' REPORTER was established to report the transactions of Societies, and the Editor will be glad to receive reports for insertion as early as possible after the meetings have been held, and at the latest before the 24th of each month.

BLACKBURN AND DISTRICT PHOT: SOC:—The general meeting was held on the 24th ult., the President, Mr. Gregson, in the chair. The Chairman, who, in prefacing, said that the society would benefit by the election of Mr. Burrows as a co-Secretary, read a paper on the manufacture of chloride plates for lantern slides, all of which were practically demonstrated. Several questions were afterwards asked and satisfactorily answered by the Chairman. The new dark-room, which has just been completed, was then inspected by the members, and general approval of it was expressed. An excursion to Whalley was fixed for May Day.

BRIGHTON PHOT: SOC:—An ordinary meeting was held at the New Road Lecture Hall on Tuesday, April 22nd, when there was a fair attendance of members and friends. Mr. W. Jago gave an instructive and highly interesting address on the chemical changes caused by the exposure of dry plates to light in the camera, and the subsequent development by various agents. A discussion ensued, and interest was excited by a show of apparatus contributed by Mr. S. B. Hardcastle and other members. The Secretary announced that the first excursion of the season would take place to Shoreham on April 29th.

BRIXTON AND CLAPHAM CAMERA CLUB.—On April 25th the fortnightly meeting was held at 35, Bedford Road, S.W. After usual business a communication was read by Mr. W. H. Powell on the subject of "Developers and Development," in which he treated of pyro, ferrous oxalate, and hydroquinone, and the purpose each was specially adapted for. Speaking of negative work, he touched on the various preservatives used for pyro, and the modifications required in the developer and its manipulation for various kinds of work, such as instantaneous, clouds, portraiture, landscapes with weak or strong contrasts, etc., etc., and also in cases where the correct exposure had not evidently been given. An interesting discussion followed. A trip to Greenwich was arranged for on May 10th.

CHESTER SOCIETY OF NATURAL SCIENCE AND LITERATURE—PHOTOGRAPHIC SECTION.—At a meeting of the above section, held on April 21st, a paper was read by Mr. E. G. Ballard, Associate Royal School of Mines, on "A New Actinometer." The need of a ready and quick method of measuring the actinic rays of light proceeding from any object, or reflected therefrom, has for a long time been felt by photographers, and they may welcome the instrument introduced by Mr. Ballard (which is patented) as one of the best attempts in this direction yet before the public. It is very simple, and so constructed that the actinic rays proceeding from the object about to be photographed can be viewed and compared for the purpose of deciding the exposure. The range of the instrument exhibited was from '01 sec. to 100 secs. exposure with *f*/16 stop, using an Ilford ordinary plate. Tables for any make of plate can be furnished, or the instrument itself can be adjusted to the plate in use. There is nothing fragile about it, it occupies a small compass, is light, and always ready at a moment's notice. As soon as the inventor can arrange for its manufacture the instrument will be in the market, and its price will be moderate. At the meeting some negatives were exhibited, the exposures of which varied from 1 sec. to 600 secs., and as they were of the same subject it was difficult to distinguish between them, so uniform were they in quality. The latter negative was taken at 7 p.m., when it was getting dusk, and as far as detail was concerned was equal to that taken at midday.

HACKNEY PHOT: SOC:—The annual soirée was held on Thursday, the 24th ult., about 400 being present. A most enjoyable evening was spent, due appreciation being given to the vocal efforts of the President, Misses Hensler, Attrill, F. Jolly, W. A. Hensler, Harding, etc., and to Messrs. Jelley and Scott, and Miss Rose Hensler, with solos respectively on oboe, bassoon, and violin. The society boasts of an orchestra which played "L'Italiana" and "Dream on the Ocean" very creditably. Mr. Beasley gave an amusing conjuring entertainment, and Messrs

Sewell, Singer, and Augustus Wilson recited. The evening was brought to a close by exhibiting members' lantern-slides on the screen. The room was prettily decorated with flags and plants, the lady members being busy all day in making preparations.

HASTINGS PHOT. SOC.:—At a meeting of the Hastings Photographic Society on the 21st April, at the Brassey Institute, the Rev. W. H. Green presided over a fair attendance. A communication was read from the Secretary of the Lewes Photographic Society, inviting members to the Lewes excursions during June and July. It was decided to accept the invitation with thanks, and to leave the choice of dates in the hands of the Secretary. The names of Dr. Humphreys and Mr. Gibson were added to the Committee. The remainder of the evening was very profitably spent in listening to a lecture given by Mr. Godbold upon the "Platinotype Process of Photography." A number of experiments rendered the discourse additionally interesting.

HOLBORN CAMERA CLUB.—The usual monthly lantern night was held on Friday, April 25th, when about 250 lantern slides, made by members of the club, were shown to an appreciative audience, Messrs. Benest and Cobb manipulating the lantern, which was kindly lent by Mr. Gay. One new member was elected, and Miss Hare was proposed as a member of the club. On Friday a paper from one of the photographic journals, and a discussion on the same.

MAIDSTONE AM. PHOT. CLUB.—At a lantern-slide exhibition held in connection with this club at the Old Palace, Maidstone, on Friday, the 25th ult., the hall was crowded with ladies and gentlemen of the neighbourhood interested in amateur photography. The slides exhibited were the work of Messrs. Morphet, Lowry, Clout, Adams, Sunderland, Bear, Bath, Laurence, Dresser, and the President, Mr. J. E. Austin, and their clearness when thrown on the screen showed the possession of no small amount of skill in the photographic art on the part of the contributors. The subjects also were well chosen. The best of the slides were those prepared by Mr. Austin (who it may be mentioned was the winner of three prizes at the recent exhibition held at Newcastle) and Mr. Dresser.

To Correspondents.

THE insertion of **QUERIES** and **ANSWERS** is attended with much labour, and it is requested that the questions asked and the answers given shall be short and to the point. No charge is made.

All communications for the columns are to be addressed to **The Editor, "Amateur Photographer,"** 1, Creed Lane, Ludgate Hill, London, E.C.

RULES

1. Write clearly and distinctly on one side of the paper only.
2. Write each Query or answer on a separate sheet of paper.
3. Write the name and address legibly on the back of each communication, and sign all Queries and Answers with name or *nom de plume*.
4. All matters for these columns **MUST** be received by **TUESDAY MORNING'S POST**.
5. The Editors do not undertake to answer questions by post.
6. In answering Queries correspondents are requested to mention, in every instance, the *number and full title of the query* referred to.

QUERIES.

3750. Stand for Hand-Camera.—What is the best kind of walking-stick or alpenstock stand? I should like something which really looks like a walking-stick if possible.—W. S. P.

3751. Stand for Hand-Camera.—What is the best stand to use with a hand-camera, for long exposures? Please give price and name of maker.—PILULA.

3752. Exposure.—With a half-plate rapid view lens, and Ilford ordinary plates, what exposure would be needed to take a group, under an awning on board ship, using stop $f/16$ or $f/22$, at, say, 3 p.m., in either the Mediterranean, Red Sea, or Indian Ocean, during the months of August or September?—CALCUTTA.

3753. Saloon of Ship.—Can a picture be taken of the saloon of a ship, with passengers at the tables? If so, what exposure would be required, using a half-plate rapid view lens, Ilford ordinary plates, the electric light, and stops $f/8$, $f/11$, or $f/16$? Perhaps Major E. F. Becher, R.A., will reply.—CALCUTTA.

3754. Hand-Camera in an Exhibition.—Will any amateur kindly tell me if I can take with a detective camera a photograph of a stand in an exhibition, well lighted?—ERNE THOMPSON.

3755. Retouching.—Will a brother amateur kindly tell me how to retouch a negative cheaply, and also tell me how to fill up pinholes, and also retouch a photograph, and oblige, as I am only a boy amateur?—ERNE THOMPSON.

3756. Enlargement Film.—Can any gentleman inform me if there is a process by which enlargements from cartes-de-visite can be obtained on canvas, and then fixed, so that it can be finished in oil? If so, where obtained, and cost of same?—E. N. N. K.

3757. Transparency of Shadows.—What is meant by saying that prints obtained by this or that process "show great transparency in the shadows of the picture"? The only meaning I have up to the present attached to transparency is that of being able to see through glass, water, air, etc.—A BEGINNER IN PHOTOGRAPHY.

3758. Pyro Potass Developer.—The Rev. W. Aston gave a formula for a pyro potass developer in vol. vi. I have lost the number containing the formula. Could anyone kindly oblige with the same?—GAEL.

3759. Isle of Man.—Will some friend say the exposure suitable for the interior of the Isle of Man, as compared with Wormald's tables? Also how quick might I work the shutter, and with how small a stop for hand-camera work, in Douglas Bay, in July, in the best light, using Ilford ordinary plates, and an $8\frac{1}{2}$ in. focus half-plate R.R. lens on a quarter-plate camera? Any hints on hand-camera work will be highly esteemed.—SNAPMAN.

3760. Focus of Lens.—I wish to use an $8\frac{1}{2}$ in. focus, half-plate R.R. lens on a detective camera. What is the distance, practically, beyond which everything will be in focus with such lens?—SHOOTIST.

3761. Lens.—Will some brother amateur be kind enough to give me the following information:—I have a half-plate R.R. lens of 10 $\frac{1}{2}$ in. focus; back combination, 15 in. focus; and front ditto, 18 in. focus; stops measure, No. 1, 1 in.; 2, $\frac{1}{2}$ in.; 3, $\frac{3}{4}$ in.; 4, $\frac{1}{2}$ in.; 5, $\frac{1}{4}$ in.; 6, $\frac{1}{8}$ in. What is the relative exposure for each stop?—P. K. F.

3762. Sensitometer and Plates.—Would someone kindly tell me the method of changing the

SPEN VALLEY PHOT. SOC.:—The ordinary monthly meeting was held on April 15th, the President (Dr. Farrow) in the chair. Mr. E. Hirst read a paper, and gave a demonstration on "Aptus Sepiatype Paper." He spoke of the simplicity of the process, and the beautiful results which can be obtained on this paper. The paper is printed out in a good light, and then after steeping for a short time in water, only requires fixing in a weak bath of hypo, and then after a few hours' washing, drying, either slowly, when an even sepia tone is obtained, or more rapidly before the fire, which gives a pleasing variety of tones. Mr. E. Smith read an interesting paper on the "Preparation of Lantern Slides," stating that in his opinion the wet collodion process gave the best results, but for more easy working the commercial gelatine plates. Mr. A. H. Knowles read a paper on the "Rapid Drying of Negatives," by immersion in methylated spirit after washing, and said that the only drawback to this process was, that occasionally the film became covered with a milky deposit, which, however, could be easily removed by re-washing the negative. The President made some remarks on the best size of negatives for amateurs to take, stating it as his opinion that the quarter or half plate was quite large enough, and that if larger pictures were desired, these could easily be obtained by enlarging. The general feeling seemed to be in favour of the half-plate size. The first excursion of the season took place on April 8th. The spot selected was Ilkley.

WEST SURREY AM. PHOT. SOC.:—A meeting was held on the 23rd ult., at Crichton Hall, Clapham Junction, Mr. Winsford in the chair. The subject for the evening was "Photography AfIELD," by the President (Mr. Gale), illustrated by a fine collection of his own slides, shown on the screen by the oxy-hydrogen light. The lecture throughout was listened to with the greatest interest, as was evinced by the frequent bursts of applause, both at the remarks of Mr. Gale and the fine examples of his work. The next meeting, fixed for the 7th of May, will also be of an interesting character; on that occasion Mr. Davison will give a practical demonstration of the platinotype process, when visitors will be welcome.

number of times plates into the number of the sensitometer?—R. E. S.

3763. Copying.—I wish to take a copy of some cartes-de-visite, using a quarter-plate camera and ordinary plates. Which is the best way to do it?—W. H.

3764. Plates for Copying.—What is the best way and plates to take portraits of, say, a large picture from the *Graphic*; also paper for prints from same?—J. E.

3765. Adapting Camera.—Can I make an arrangement to fit in dark slide groove of quarter-plate camera to take half-plates, using perhaps a half-plate lens? I thought perhaps a bellows affair would do it.—R. M.

3766. Eikonogen.—Will any reader who has developed with Eikonogen please tell me how it is that I fail to obtain density, using the maker's formula? The high lights of the prints obtained are very much discoloured. Negatives developed under exactly the same conditions with pyro give good results.—A. C.

3767. Lamp.—Where can I obtain the chimneyless and the new form of paraffin lamp burners? Cannot these be obtained without the entire lamp? The dealers in our town will neither supply me with burners nor address of makers.—DARK-ROOM LAMP.

3768. Binding Lantern Slides.—Can anyone give me hints for binding neatly and effectually lantern slides? I find the bindings are apt to crack off. Hughes has a system for metal binding; of its desirability I know not, but its expense precludes its use.—B.

3769. Ryde.—Can any brother amateur give a few places and objects of interest in Ryde and neighbourhood, as I intend to spend a fortnight there at the end of May?—SEPTIMUS.

3770. Hockin's Camera.—Will any amateur kindly give me his opinion of Hockin's instantaneous cameras, as advertised in this paper; also mention faults, if any?—LANGHAM.

3771. Chiswick.—I should like to know if there is any Photographic Society at Chiswick, as, being a resident in that neighbourhood, I should like to join one? Perhaps some of your readers can inform me.—G. B.

3772. Scratches on Burnisher.—I have one of Abraham's $\frac{1}{2}$ Reliable burnishers. After I have burnished one or two photographs I find the bar gets scratches on it, spoiling photographs. How is it? Can any reader kindly put me right? I mount photographs with starch, thick as blancmange; not pulverised starch.—SCRATCHES.

3773. Instalments.—Would any reader inform me of a firm which accepts monthly payments for photographic apparatus, etc.?—INSTALMENTS.

3774. Development of Instantaneous Printing.

—Will some expert oblige me with instructions as to the best formula and method of developing instantaneous pictures of animals in motion, etc., with hydroquinone or eikonogen? I do not work pyro-ammonia. Should the developer be weak, strong, or normal, etc.? Plates, Wratten and Wainwright's Drop Shutter Special.—**ASHTON.**

375. Glass for Dark-Room.—Will any amateur photographer kindly inform me whether the light obtained by the use of green and orange glass, instead of ruby, is safe? Also please tell me where I can obtain the green glass.—**F. HUGHES.**

QUERIES UNANSWERED.

Mar. 7th.—Nos. 3528, 3530, 3531, 3551, 3554, 3556.
14th.—No. 3566.

21st.—Nos. 3585, 3587, 3593, 3595, 3596, 3601,
3610, 3612, 3613, 3614.

28th.—Nos. 3620, 3629, 3630, 3633, 3634, 3636,
3637, 3638, 3640, 3641, 3643, 3650, 3653.

April 4th.—Nos. 3661, 3664, 3674, 3677.
11th.—No. 3684.

18th.—Nos. 3703, 3708, 3709, 3711, 3715, 3718.
25th.—Nos. 3727, 3731, 3735, 3736, 3742, 3744,
3747, 3748.

ANSWERS.

3123. Tone.—Print on aristotype paper (deeply. Tone, without washing, in Hyposulphite of soda 10 ozs.
Chloride of gold 3 grs.
stopping when toned to colour you want. No fixing required.—**Q.**

3652. Alum.—Alum and chrome alum are both used for hardening the film; but the latter only in cases of bad frilling, it having greater hardening action. Alum answers well in ordinary cases, and is much cheaper.—**Q.**

3672. Toning Trouble.—Cause: precipitation of gold. Remedy: mix a fresh bath. Gold will not pay for the trouble of recovery. Keep your toning baths in the dark when not in use. They are less likely to precipitate the gold.—**Q.**

3705. Ireland.—If "Medici" cares to write to me I shall be glad to give him any information I can.—**J.** (address with Editor).

3721. Dorking and Gomshall.—If "Cockney Amateur" will write me, I shall be pleased to give him the information he wants; but I know of no book on the subject. Address with Editor.—**Q.**

3722. Budleigh Salterton (South Devon).—Well worth a fortnight. Haunts: Sidmouth, Ladrum Bay, Straight Point, etc.; all with good subjects. The well-known river Otter abounds in "bits." Best time, June to July.—**BRUSH.**

3722. Budleigh Salterton (South Devon).—Certainly. It is a pretty place, and in the neighbourhood you will find many photographic bits. I should say you could manage three dozen pictures with the greatest ease.—**W. A. J. CROKE.**

3723. Animals at the Zoo.—The reply to "G. N. Fell," in last week's "Editorial" might help you.—**Q.**

3726. Gravestones and Tablets.—This would seem to be about the simplest form of photography. Two things, however, might be noted. The lens should be well stopped down to secure sharp definition, and in the case of tablets the plate should be accurately parallel to the tablet to secure squareness. N.B. Swing-back should be used if necessary.—**GREENWOOD.**

3725. Scratched Film.—Only retouching both on the negative and print, but great care must be taken.—**W. A. J. CROKE.**

3728. Scratched Film.—If the scratches are few and small, they might be carefully stopped out with a fine sable pencil and Indian ink. If they are many and large, the case is hopeless.—**GREENWOOD.**

3729. Printing-out Paper.—Sulphuric acid and water will remove films from plates, with the help of a stiff brush.—**Q.**

3730. Bicycle Carrier for Camera.—I carry my half-plate camera and three dark slides on a Premier Safety bicycle, in a double saddle-bag, made of waterproof cloth, slung on the backbone of the machine (camera in one pocket, and slides, etc., in the other, to keep the balance true). The bag cost 10s., at Jas. Valentine and Co.'s, 15, Bishopsgate Street Without, and is a most satisfactory investment, as it can be used to carry clothes in when not required for the camera. I shall be happy to show the arrangement to "S. C. H."—**E. W. T. WARD.**

3732. Quarter-Plate Camera and Set.—I should advise "Amateur Beginner" to go in for a quarter Instantograph, by Lancaster, and to buy his chemicals, dishes, etc., separately, and not in a set, as they come much cheaper. I have found the Instantograph all that could be desired for a beginner's camera.—**W. E. DOBSON.**

3732. Quarter-Plate.—For the price you cannot beat a Lancaster. It is best not to get the set, or, in fact, any set, as many things are superfluous that are in them.—**EIKO.**

3732. Quarter-Plate.—Lancaster's quarter-plate Instantograph is a very suitable camera to put into the hands of a beginner. I should also recommend you to obtain Mawson and Swan's "Photography simplified," and study it carefully.—**T. D.**

3733. School of Photography.—There is a School

of Photography at the Polytechnic, Regent Street, W.—**Q.**

3733. School of Photography.—I know of no school, but several firms give free lessons to purchasers.—**W. A. J. CROKE.**

3734. Magnesium.—I find half an inch of ribbon one foot away plenty with Alpha plates. To ignite, let the smoke of a match (lighted) be first applied, gradually bringing it nearer the ribbon, when it will soon burst into flame.—**EIKO.**

3737. Shutter.—I have one of Tylar's Norden Flap Shutters fitted to a stereoscopic camera, and am very well satisfied with it. It gives no vibration, and it can be altered to give with the same tension exposures of varying efficiency, that is, either to close as soon as fully open, or else to remain open for an instant before commencing to close.—**SUDDOCK.**

3737. Shutter.—There is a danger of vibration with the shutter you mention. Dewey's drop is better at the price; in fact, with any simple drop there is less chance of vibration.—**EIKO.**

3738. Carbonate of Potash, or Soda.—Carbonate, and not bi-carbonate, is meant in the formulas. Note difference:

Potass. carb.	...	...	...	KO ₂ C ₃
Potass. bi-carb.	...	...	...	KHCO ₃
Soda carb.	...	...	...	Na ₂ CO ₃ .10H ₂ O
Soda bi-carb.	...	...	...	NaHCO ₃

—**Q.**

3738. Carbonate of Potash or Soda.—The bicarbonate is always meant. The bicarbonate is useless.—**GREENWOOD.**

3739. Easing Bridge is about three miles from Godalming. Go along Portsmouth Road; after crossing under railway arch about fifty yards, take a road to the right, up a very steep hill, sign-posts after that. There is another way through Milford, not so steep. I should say (early morning or) late afternoon. I took a photograph about 3 o'clock, very good, but bridge rather in shadow. Set up camera (below bridge) on tongue of land between the two streams, get an old willow tree into the foreground.—**E. A. DUFF.**

3740. The Instantograph Shutter.—Mr. Meldon has tested the speed of this—I think he found it to be about one-thirtieth of a second.—**GREENWOOD.**

3741. To Cut Plates.—I have used a sixpenny American glass-cutter for the same purpose, which was quite effective.—**T. D.**

3741. To Cut Plates.—If you cannot afford a diamond—which is the only way to cut glass plates—get a maker to do it for you.—**W. A. J. CROKE.**

3743. Swinden and Earp's Hand-Camera.—With this camera no scratching of plates can occur. It works well, but all workers of hand cameras must expect failures. I have one of their hand-cameras, and believe it the best in the market; it holds 20 quarter-plates.—**F. H. KNIGHT.**

3745. Enlargements.—Place the film on a piece of clean glass, film side out, and hold in its place with two narrow rubber bands.—**GREENWOOD.**

3746. Negative Exchange Club.—I started one some time ago. If you will communicate with me, through the Editor, I will put you down for the first vacancy.—**W. A. J. CROKE.**

3749. Detective Camera.—You cannot possibly get a better one than Abraham's "Ideal." It is better made than most at the price, the shutter is self-setting, and time and instantaneous exposure can be obtained. The Facile is good, but the shutter will not bear comparison with the Ideal.—**EIKO.**

EDITORIAL.

NOTE.—Anyone requiring an opinion upon photographic apparatus, plates, etc., must give a number or initial for identification, as in no case will makers' names be inserted in this column.

SPECIAL NOTICE.—We are very pleased to find that replies in this column are so much appreciated, but we should be very grateful if those requiring advice would send their letters to us BEFORE TUESDAY MORNING'S post if possible. The time occupied in replying in this column is very considerable, and owing to the often late receipt of letters, many matters have to be left over each week. This we much regret.—**ED:AM:PHOT:**

H. HOLT.—We quite endorse your opinion about "pot hunters," and hope that every possible restriction will be enforced to prevent the exhibition of previously medalled pictures.

J. PRIE.—We have your letter, and it shall receive attention in due course; sorry we did not see you.

W. A. WATTS.—You shall hear from us.

H. MACLEAN.—Should not think it at all likely. Thanks for addresses which have been hunted up.

P. CHAS. COULTAS.—Of course we quite understand the position; the circular should not have been sent to you.

GEO. LYNAM.—We forwarded the particulars.

E. HOBBS.—Thank you very much; if in the district, will certainly call upon you.

E. J. TAPSON.—You will find several formulae in quite recent numbers. Recently two were quoted in this column.

MISS MARIAN ROOTS.—Ladies can enter their photographs under any or all of the subjects named.

The size of picture and selection of mount is, of course, left to the judgment of the competitor; we cannot advise.

MARIE DE MEUDON.—Certainly write to the Colonel of the Regiment, he is not likely to object. Make up your own toning bath; see "Experimental Photography" (Leaper). You will find no difficulty in "making up" pyro and ammonia developer. We do not at all counsel the purchasing of ready-made developers or toning baths. Thank you for speaking up for the AMATEUR PHOTOGRAPHER. We should think it very unlikely that you would be able to divide off the room as you suggest for a dark-room. We may very shortly give one.

ARTHUR FANE.—Thank you for your most interesting letter; certainly we shall be pleased to criticise your work, and shall be glad to hear from time to time of your doings and the progress you are making.

B. C. DOYLE.—The best lens is A and the next C, but for your work we should recommend the former.

W. S. T.—We have every reason to believe that you will find C a good film. The lens F is a very perfect instrument. The camera you name we have not seen, but, unfortunately, they are badly finished; if you buy one, have it sent to us, and we will examine it for you.

W. M.—You would find B plates give you greater latitude in exposure, and in our hands they never frill. We will take your photographs in their order: No. 1, too much foreground, badly focused, no detail brought out; No. 2 is a very good print from a capital negative; No. 3, it is very difficult to secure a good picture with such bright sunshine, the flags in right-hand corner are an ugly patch upon the print; No. 4, far too strong a light, no detail brought out; No. 5, a good study of trees, but otherwise very uninteresting, exposure is about right; No. 6 is a very charming picture, the print looks as though it is from a stained negative, detail is fairly rendered, and it is the best. Nos. 7 and 8 are hard. Why not try ferrous-oxalate. Your remarks about the fluid we are sorry to say we cannot understand. D: this apparatus is really of little use, it is made like the razors, to "sell."

G. B.—The nearest is the West London Photographic Society; the Secretary, Mr. John A. Hodges, 87, Chancery Lane, London, E.C., will give you all information.

A. F. JONES.—"Folkestone Harbour," a little hard. Your negative is probably a thin one. You should have endeavoured to have got in the whole of the masts, which could have been done had you sacrificed foreground, which could have been spared. The "High, Oxford," is a very fair street scene, but has no claim to be called a picture. "Mayfield, Sussex," would have been better if the exposure had been shorter, and the picture would have been much helped by a group of cottagers, or their children. The prints are returned; also entry form for "Monthly Competition."

HECTOR MACLEAN.—All right. We will have something to say later on.

B. W. GILBERT.—Thank you very much. Our attention had been called to the notice in the *Birmingham Daily Gazette* of the 28th ult. We are also obliged to you for bringing the matter to our notice.

SEPTIMUS.—Your lens does not give good definition in the portrait. No. 1 and 2 are both rather over-exposed. Do not be anxious to use rapid plates. The point of view of No. 2 is good; but you will notice that definition is lacking. No. 3 is very fair, but your foreground is much too vast. If you like to send us particulars of lens, stop, exposure plate, and developer, we may help you more. Prints are returned.

B. S. P.—Your photograph is evidently from a thin negative, and is much over-printed. You should not expose such a negative to strong sunlight; if you do, cover it with tissue paper. Photographs of animals may be entered in the next "Monthly Competition." All prints must be sent in on or before the 14th of May. The lens is a good one, and seems to give good definition. The ordinary acetate bath will keep fairly well if you use distilled water, and do not allow actinic light to get to it.

D. R. CLARK.—Please send on prints at your convenience. We notice the excellent reproduction from your negative which is published in the *Art Review*.

FRAS. L. FITHER.—We have handed your letter to our publishers.

RASHLEIGH PORTER.—All right; we will express no opinion. You will find us "at home" on Mondays from 2 to 5 o'clock, and on Thursdays from 11 to 1 o'clock. Send a post card if you are coming up any other day, and say time. Shall be delighted to see you. If you want to read shutters, buy "Competitive Papers No. 1," is, published by us. There are several capital articles in it, and a good deal of other useful information. Delighted with your letter.

EAGLESBUSH.—No. 1 is thoroughly reliable, and the R.R. lens is a first-class instrument. We are pleased with No. 2, and if thoroughly examined will do good work. It is smaller, lighter, and more compact than No. 1, but has many more movements. The shutter sent out with the new ones is very perfect, both for time and instantaneous work.

S. C. HOVENDON.—Thank you. We have sent on

full particulars. Glad you found the paper all right.

R. C. B.—We cannot recommend any under A. 1 and 2 are identically the same, the best part of them being the shutter; 3 has circular plates, but gives good pictures, only small; 4 we know nothing about. B, answered above. C, better wait and buy the camera you name. If you have the single lens you will be well pleased, and could always fit an R.R.

H. W. O.—You have secured a reversal of the image, due to the extreme action of light. There is no remedy. The plate is spoilt. We should certainly prefer lens No. 1.

J. S. H.—You will find a very excellent description of platinotype printing in the "Dictionary of Photography." The image is only faintly visible before development.

ST. JOHN.—Yours is a very charming letter, but it is difficult to answer in this column. Could you not call upon us next Monday between 2 and 5? For shutter, we should advise the No. 1 "time and instantaneous," No. 8, or No. 9; these are all for hood, which we should recommend. The size of stop must depend upon your subject, and your light also upon the speed you work the shutters. See note to "Rashleigh Porter." Of the hand-cameras, certainly No. 1. The No. 2, in answer to "Eaglebrush," is your No. 3. No. 2 is "bricky," but we fear, not reliable. If you call, we can show you No. 1 and No. 4, and talk about the others.

L. H. K.—If you write a line to Mr. E. B. Goddard, Eaglehurst, Wallington, Croydon, he can help you. The make of lens are certainly of the very first quality, but we cannot say what your lens will do without first seeing it. You may, however, rest assured that whether it is an R.R., W.A., or portrait it will do good work.

A. GEORGE.—The only way in which you could do what you wish would be to use the transferotype process, and we fear you would have considerable difficulty with it. Could you not cut the print the exact size of panel, and then varnish the whole?

B.—We do not name apparatus. There are, however, many very excellent cameras, etc., in the market suitable for taking negatives expressly for lantern work. Go to a first-class dealer.

TRY AGAIN.—Your lens is evidently not rapid enough. We should advise you to have No. 2; a splendid lens, and particularly adapted for hand-camera work. No. 1 is said to give good results, and we have seen such, but have not used. No. 3 we feel certain would not satisfy you.

E. B. GREENWAY.—You will find the turntable of very great advantage.

W. G. G.—You had better give us a call. Sorry the letter to "F. R. C. S." has not reached him. Unfortunately, his address was not registered. Seeing this, he may reply.

GEORGE A. MILLER.—You cannot have better than *b* or *d*; they are both quite perfect for hand-cameras with dark-slides. We have no choice in them. Perhaps the lens in *d*, which is made by the firm, is the best.

H. F. LINGING.—You say, "I crushed the bi-sulphate of soda." If you look at page 294, you will find that you are told to use bi-sulphite. This will probably account for your difficulties.

FRED W. BROCK.—(1) Portrait. (2) Portraiture. (3) Probably cabinet. (4) Impossible to say. We believe good work may be done with the lens.

J. G. C.—(1) If you can buy that lens for £6, and it is in good order, you have a bargain. (2) Certainly not, unless it has been roughly used. (3) Not to be compared. The list price of such a lens is about £15.

H. RENDALL.—We believe No. 1 to be good, the others we know very little about.

K. B.—The lens is a cheap French lens, giving fairly good definition. It would not be worth while to have a mount made for the other, which is probably the front combination of an R.R. Your second letter: In using pyro be careful as to quantity, and add citric acid—say 1 in 4.

F. T. BENNETT.—Why should you doubt the makers, and why should we test it; they surely know their own paper? We know the writer of the letter, and should advise you to follow his instructions.

F. G. BEECHING.—Thank you, we may write you, BEGINNER.—We are writing you.

SNIP.—"A Rehearsal" is not well lighted, retouching is carelessly done, the music stand is frightfully out of focus, and is a quite unnecessary accessory to the picture. What lens was the picture taken with? The work sadly lacks definition. Nos. 1 and 2: the white dress is a great mistake, especially with one so fair; you have no detail in it, the light is all on the dress. You have the flowers in sharp focus, and the sitter is out of it. We should advise you to study "Pictorial Effect" (Robinson), and not to try to take photographs of figures in a conservatory. You will in all probability sacrifice the figure or the flowers, and don't take ladies in white dresses. Let us see your work in six months, you might then, perhaps, enter one of our competitions.

P. ELLIS.—For the "Travelling Studentship" photographs of any size may be entered for competition. We have no entrance fees. The fact of entering a print in one of our "Monthly Competitions" will disqualify it for the "Travelling Studentship" or any other competition. If the

print is from a negative taken by yourself, you may enter.

J. MOUNTFORD.—At an artist's colourmans, or any shop where they sell drawing materials.

Q. R.—The stains may be from pyro, silver, or a dirty fixing bath; had you fixed silver prints in the same bath?

PYRO.—The muddy appearance of the developer is due to the fact that ferrous oxalate is soluble in excess of solution of oxalate of potash, not in water; care must be taken to keep the potash in excess, see "Dictionary of Photography," pages 40 and 41. 2, We prefer the ordinary 10 per cent. solutions.

E. L. H.—You give no address. Our rule is to have every query endorsed with name and address, we therefore, must hold over our reply.

E. H. JEFFREY.—Shall be very glad of photographs for hospital albums. The address shall be given if applied for.

AMATEUR.—Your letter is quite unintelligible, and has been consigned to the W. P. B.

Sale and Exchange.

RULES.—Fourpence for twelve words or less, and a penny for every additional three words, must be enclosed with each advertisement, together with the name and address of the sender, which must be paid for, and sent to Hazell, Watson, and Viney, Ltd., 1, Creed Lane, Ludgate Hill. Halfpenny Stamps preferred. A single figure, or group of figures undivided by letter, space, stop, or words, counts as one word; compound words count as two words.

REPORTING UPON APPARATUS.—The Editor of the AMATEUR PHOTOGRAPHER will be pleased to report, to any intending purchaser, upon apparatus, etc., offered for sale in the "Sale and Exchange" column, provided such apparatus, etc., is forwarded by the seller to him to the offices of the AMATEUR PHOTOGRAPHER, 1, CREED LANE, LUDGATE HILL, LONDON, E.C., free of charge. The intending BUYER to pay a fee equivalent to a commission of 2½ per cent. upon the sale price of the apparatus, etc. The publishers will undertake the packing and sending of all goods at the cost of the SELLER. As far as possible, the Editor will undertake to send a report within two DAYS of receipt of goods.

DEPOSITS.

Deposits for goods to be forwarded on approval may be made with our Publishers, who will hold the amounts deposited until they are satisfied that the transaction has been executed to the satisfaction of both parties. Cheques and Post Office Orders should be made payable to Hazell, Watson, and Viney, Ltd. A nominal charge of 1s. is made whether a sale is effected or not.

N.B.—Trade Advertisements cannot, under any circumstances, be inserted in this column. Such advertisements can be inserted elsewhere at the Trade Scale, which may be obtained on application to Parry and Crawford, 1, Creed Lane, Ludgate Hill, London, E.C.

"Amateur Photographer."—AMATEUR PHOTOGRAPHER, 1889, perfect, 4s. 6d.; clearing out sundries, cheap, returnable list, approval.—No. 10, Albion Street, Miles Platting, Manchester.

Apparatus.—Quarter rapid portrait lens, with stops, and rack and pinion, focussing, 16s.; two whole-plate metal dark-slides to Lancaster's Instantograph, only used once, 11s.; 50 numbers of AMATEUR PHOTOGRAPHER, 4s.—B. S. Proctor, North Road, Coudridge.

Half-plate Instantograph lens and shutter, nearly new, 20s.; also folding tripod stand, scarcely used, 10s.—Lex, 23, Eustace Street, Dublin.

Underwood's extra-rapid portrait and view lens, with Iris diaphragms, working at f/8, never used, 14s.; feather-weight double back, 3s. 6d.; Lancaster's double back, cost 12s. 6d., for 8s. 6d.; Lancaster's Instantograph shutter, 5s.; Lancaster's tripod head and stand, 5s.; all half-plate lot for 30s., or exchange to value.—Fairweather, Stroud, Glos.

5 by 4 camera, three double backs, one single, 16s.; case for above, 4s. 6d.; three porcelain 5 by 4 dishes, 1s. 3d.; 5 by 4 plate box, 10d.; Decoudun's photometer, 7s.—Address, C. 32, Lingfield Road, Wimbeldon.

Optimus Euryscope, 7 by 5, nearly new, cost £4 14s. 6d.; Fallowfield's Special square camera, 8 by 5, every movement, in excellent condition, one double back, cost £4 10s.; Marshall's patent pneumatic shutter, perfect order, cost 25s.; total cost, £10 9s. 6d.; will sell for £3 cash; a genuine bargain; or will exchange for good cabinet portrait lens of 6 or 7 in. focus, or more, with cash to value.—W. Hare, Lind Road, Sutton, Surrey.

Backgrounds.—Backgrounds, three pretty exteriors, flatted oil, rollers, 8 ft. by 6 ft., rustic summer-house, ivy, trees, etc., stone arch, creepers, landscape, etc.; 10s. 6d. each.—Hill, Hampton Road, Twickenham.

Bicycle.—Facile bicycle, in thorough condition, good climber; exchange for whole-plate camera and lens, or enlarging lantern.—15, Harvard Road, Lewisham.

Burnisher.—10 in. burnisher (the Useful), nearly

new, Bunsen burner; buyer pays carriage.—A. Spiller, Hillside, Hampstead Hill Gardens, N.W.

Cameras.—Lancaster's half-plate Meritoire, with lens, stand, five double backs, and waterproof case, complete; 65s.—Stott, Mumps, Oldham.

5 by 4 long-focus Tourist camera, brass-bound, reversing back, three double backs, and case, as new; price 80s.—Seen any time at 194A, Mare Street, Hackney, N.E.

Mahogany half-plate Tourist camera, leather bellows, rising front, double swing-back, reversing back, new condition; 32s. 6d.—43, The Grove, Vauxhall.

Cameras, etc.—Hare's whole-plate patent camera, with Russia leather bellows, three slides, two leather travelling cases, inner frames, stand, and instantaneous shutter; cost £21 10s.; cash £10.—F. D., care of Watson and Sons, 313, High Holborn, London.

8½ by 6½ square reversing-frame camera, and three double backs (by Meagher), in condition equal to new, with solid leather case and sliding leg stand; cash £7 10s.—R. B. M., care of Watson and Sons, 313, High Holborn, London.

Camera, quarter-plate portrait lens, tripod, and single dark-slide, suit beginner; price 25s.—Saunders, Rosedale House, Clevedon.

Exchange McKellen's quarter-plate camera, three double backs, and No. 2 Ross' portable symmetrical lens, for good quarter-plate detective camera or cash.—A. Barlow, Cornbrook Works, Manchester.

For sale, modern whole-plate camera, conical bellows, three double backs, all movements, the whole complete in mahogany case.—Address, Bond, Bodmin.

Quarter-plate Instantograph camera, fitted with Eastman's roller slide, three double backs, in case, £3 10s.; Thornton-Pickard time shutter, 1½ in. hood, as new, 10s.—G. Constable, Market Street, Lewes.

Half-plate square bellows camera, three double backs, rising and cross fronts, swing-back, rapid single landscape lens, revolving stops, instantaneous shutter, the whole almost new, and tripod stand; bargain, £4 10s.—Address, C. 32, Lingfield Road, Wimbeldon.

For sale, Lancaster's quarter-plate Meritoire camera, in thoroughly good condition, with lens, three double dark-slides, and tripod stand; cost two guineas; will take 30s.—F. W. Sears, 1, Creed Lane, Ludgate Hill.

Lancaster's quarter Instantograph (1888), complete, with shutter, seven metal slides and adapter, printing frames, six developing trays, focussing glass, etc.; £3; apply after 6.—Newman, 201, Brick Lane, Bethnal Green Road, E.

Universal studio camera, new, half-plate, double swing-back, screw adjustment, £23; also portrait lens, rack and pinion, cost 5s, take £2.—Beckett, 10, Red-hill Street, Regent's Park.

Camera, lens, etc.—Optimus Euryscope lens, 7 by 5, good as new, £3 3s.; also quarter-plate Instantograph camera, 1888, lens, shutter, three double backs, tripod, and case, good condition, £2 10s.; also Lawley's quarter-plate portrait and view lens, with extra flange, 15s.—Mrs. Cole, Chaplain's House, H.M. Prison, Lewes.

Canoe.—Exchange splendid clinker-built canoe for photographic set, hand-camera, or Safety bicycle; approval.—P. F. Hayden, Graigue, Kilkenny.

Enlarging Apparatus.—Marion's enlarging apparatus, 7 in. condensers, new, cost £7, further particulars if wanted; would exchange for f/7 rapid rectilinear lens by good maker.—H. Wigan, East Malling Vicarage, near Maidstone.

Hand-Cameras.—Hand-camera, for 2½ by 2½ plates, lens, shutter, six sheaths, and four dozen dry-plates; will take 15s.; giving up photography.—Toodie Young, Guilford Lodge, Brentwood.

Kodak, with new roll, 100 films, perfect, hardly used; 55s.—Stevens, 209, High Street, Sheerness.

Facile hand-camera, rectilinear lens, finder, as new; £3 5s.—Ruddock, 59, Plantagenet Street, Cardiff.

Kodak, quite new, 60 exposures; 50s.—Ellis, 7, Park Village West, N.W.

Fallowfield's Facile camera; cost £5; take £4; good condition.—Whiteside, St. Nicholas, Cardiff.

Diamond detective camera, perfect condition; 20s.—E. Galloway, Gladstone Terrace, Gateshead.

Induction Coil, etc.—New ½ in. induction coil, polishing lathe, and 6 in. fan; will exchange for photographic goods.—Ord, Chemist, Scotswood Road, Newcastle-on-Tyne.

Lenses.—Two Ross' rapid symmetrical lenses, whole-plate and 10 by 8; price 5 guineas and £6 15s. respectively; both in perfect condition, practically new.—Cross and Johnson, High Street, Exeter.

A first-class 12 by 10 triple applanistic view lens (by Voigtlander, No. 11,327), it is an old pattern, with stops at back of lens, 16 in. focus, very rapid, gives perfect definition, and works well for portraits or groups; will exchange for a complete quarter-plate hand-camera by any good maker.—Charles Oetzmann, Brighton Road, Surbiton.

Lancaster's R.R. lens, half-plate, focus 8½ in., Iris diaphragm, as good as, and nearly new; £2.—Col. Ogle, Eastney Barracks, Portsmouth.

Half-plate W.A. lens (Lancaster's), Iris diaphragm, with adapter for Rectigraph lens; £1.—54, Chester-gate, Stockport.

Exchange 12 by 10 single view lens for whole-plate view lens, or offers.—Hocking, High Street, Colchester.

Lancaster's half-plate rapid Rectigraph; cost £3; for 45s.; or exchange good magic lantern or hand-camera. Half leather bellows camera, all movements; 20s.—Pollock, Telegraphs, Belfast.

Hockin's whole-plate R.R. lens, new, complete; 38s.; cost 50s.—H. Curtis, 29, Longford Street, N.W. Lens and Shutter.—Grubb's A2 portrait lens and Abraham's Eclipse shutter to fit; cost, new, 114s. 6d.; take 60s., or exchange for whole-plate Optimus R.R.—Christie, Rectory, Newtown Stewart, Ireland.

Half-plate triple achromatic lens (by Dallmeyer), with instantaneous shutter, pneumatic release; 52s.—Naylor, Iver, Ealing.

"Photo. Soc. Reporter."—First volume, PHOTOGRAPHIC SOCIETIES' REPORTER, bound; what offers in cash?—55, AMATEUR PHOTOGRAPHER Office.

Photometer.—"Perfect" photometer, 6s. 9d. post free, strong two-fold ash stand, with triangular top, cost 18s. 6d., height 5 ft. 8 ins.; 10s.; carriage paid.—Ellam, Yarm.

Plates.—Twelve dozen Thomas's E.R. quarter-plates for 10s., carriage paid.—W. A., care of Publishers.

Rubber Stamp Apparatus, make 3½ in. by 2 in., full instructions; exchange for quarter-plate rapid rectilinear lens, good name, or offers photographic apparatus.—Ashley, 52, Greenhill Street, Manchester.

Sets.—Underwood's 1888 Instanto camera, dark-slide, tripod, R.R. lens; cost 5 guineas; bargain, 70s.; new.—Slade, Slad Road, Stroud, Glos.

Quarter-plate camera, double swing-back, etc., lens and shutter, portable tripod; a genuine bargain, for 37s. 6d.; cost £23 10s.—G. Maxwell, Chester-gate, Macclesfield.

Quarter-plate camera (by Photo Artists' Stores) single view and wide-angle lenses, 6 Tylar's metal slides, stand, and shutter, complete in solid leather case, perfect condition; £3; approval.—W. P., 39, Holford Square, W.C.

Diamond hand-camera, new, takes 12 plates, c.d.v., R.R. lens, finder; 23s.; or will exchange for a long-focus single lens or quarter-plate camera or R.R. lens.—S. L. C., 78, Collyhurst Street, Manchester.

Quarter bellows camera, double back, lens and stand, in box, with lamp and printing frames; cost £2; price 15s. 6d.—Ashley Lodge, Crouch Hill.

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Quarter-plate set, everything complete, price 28s. 6d., bargain; half-plate rapid rectilinear lens, 27s. 6d.—View, 8, Leigh Road, Highbury.

Half-plate outfit, best London make, square bellows camera, double swing, rising and cross fronts, three double backs, rapid rectilinear lens, solid leather case; sell or exchange for whole-plate outfit.—Address, The Butler, the Lodge, Halifax.

Lancaster's International half-plate camera, good as new, two double slides, carriers, lens, shutter,

tripod, and waterproof bag; £4.—M., 71, Wadham Road, Bootle, Liverpool.

First-class half-plate set, rectilinear lens, Thornton shutter, stand, bag, etc.—Particulars from Cooper, Chestergate, Stockport.

Ross' whole-plate camera, lens, stand, with carriers for half and quarter, and two slides in leather case; price £55s.—J. V. Ramsden, Willinghurst, Guildford.

Marion's 5 by 4 camera, lens, double dark-slide, and tripod, quite new, scarcely used; price 23s.—Hawkins, Panton Street, Roehdale.

Lancaster's half-plate International camera set, with accessories and fittings, splendid condition, also pair lanterns, with dissolving-view apparatus, complete; sacrifice, £4 18s.—A. D. Clarke, Pailton, Rugby.

Lancaster's quarter-plate camera, with lens, one double back, and tripod; price 20s.—F., 5, Wymond Street, Putney, S.W.

Slides.—Six Tylar's whole-plate metal slides, fits Tylar's camera; new; sell lot or divide; cash offers or exchange.—315, Crookesmoor Road, Sheffield.

Slide and Burnisher.—Excellent quarter double slide, also half-plate burnisher; sell or exchange. Wanted, Aptus finder.—Blyth, Ilfracombe.

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Virtue's "Palestine."—Virtue's "Picturesque Palestine," issued to subscribers only, complete in 4 vols., well-bound, half morocco, gilt edges, first-class condition; cost (including binding) £7 2s.; exchange for good half-plate set; the lens must be suitable for instantaneous work.—Rev. Irwin, Attleborough, Norfolk.

WANTED.

Cameras.—Whole-plate camera, double back, stand, no lens, must be a good maker's, in perfect order, cheap, on approval.—Mrs. Colvill, Olde House, Shrewsbury.

Quarter-plate camera.—State make and price to S. Kirkham, Court Place, Carlrow.

Whole-plate Chapman's British or other neatly and strongly-made long extension camera, must be in good order, and cheap.—F. B., 28, Winnington Terrace, Northwich.

Camera, etc.—Camera and lenses, 5 by 4 camera, dark-slides, lenses by good makers; state full particulars and price; approval.—W. Ray, Science School, Kidderminster.

Camera Backs.—Two half-plate Instantograph backs.—Emeny, 7, Cadogan Terrace, Victoria Park, E.

Camera Case.—Case for half-plate camera and three double backs.—Taylor, Tannery, Marple.

Hand-camera.—Hand-camera, quarter-plate, latest improvements, perfect condition; approval.—Gardner, Haglesbush, Neath.

Lenses.—Eurycope lens, about 9 in. focus.—Photographer, 84, Park Street, Bristol.

Half-plate wide-angle lens; state particulars; approval.—Turner, Woodville, Lytham.

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Colloid Emulsion for Albatypes, Opals, Dia-positives, Lantern Slides, etc.,

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June 4th, for 15 days | July 15th, for 15 days
June 18th, for 27 days | July 23rd, for 27 days
June 25th, for 15 days | Aug. 8th, for 21 days
The steamers will be navigated through the "Inner lead"—i.e., inside the fringe of islands off the coast of Norway—thus securing smooth water; those of the 18th June and 23rd July will proceed to the North Cape, where the sun may be seen above the horizon at midnight. The Garonne and Chimborazo are fitted with electric light, hot and cold baths, etc. Cuisine of the highest order. A

Dark Room provided for the use of Photographers.

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NOTICES TO SUBSCRIBERS.

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NOTICES AS TO ADDRESS.

PUBLISHING DEPARTMENT.—All letters containing Subscriptions, Orders, Remittances, SALE AND EXCHANGE Advertisements, or other business matters for the Amateur Photographer are to be addressed to the Publishers, HAZELL, WATSON, AND VINEY, LD., 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

NOTE.—SALE AND EXCHANGE Advertisements, at the charge of Three Words for One Penny, can be received as late as WEDNESDAY MORNING.

ADVERTISEMENT DEPARTMENT.—All communications respecting TRADE Advertisements in the Amateur Photographer are to be addressed to PARRY AND CRAWFORD, 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

NOTE.—Trade Advertisements are received up to Tuesday morning.

EDITORIAL DEPARTMENT.—All Literary Contributions, Queries and Answers, Photographs for Competition or Criticism, Books or Apparatus for Notice or Review are to be addressed to the Editor, Amateur Photographer, 1, Creed Lane, Ludgate Hill, London, E.C.

NOTE.—To ensure insertion all Communications should reach the Editor on Tuesday.

THE "AMATEUR PHOTOGRAPHER" 1890 TRAVELLING STUDENTSHIPS.

PRIZES.

First Prize	£30 0 0
Second "	£21 0 0
Third "	£14 0 0
Fourth "	Gold Medal.
Fifth "	Silver Medal.
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PRIZES.

First Prize	Gold Medal.
Second "	Silver Medal.
Third "	Bronze Medal.

(These Medals, of the smaller series, will be appropriately mounted as Brooches).

SUBJECTS.

Landscape or Seascape.—Landscape with Figure.—Genre or Figure Study.

All Photographs must be received on or before the 31st of May.

NOTE.—The adjudication will be made by lady artists and lady photographers. It is hoped that it will be possible to make arrangements to exhibit the photographs at a *Conversazione* to be held in the offices, 1, Creed Lane, E.C., during the month of June.

Further particulars on application to the Editor, "Amateur Photographer," 1, Creed Lane, Ludgate Hill, London, E.C.

Liverpool Amateur Photographic Association.

INTERNATIONAL

Photographic Exhibition, 1891.

Address Hon. Sec., Mr. T. S. MAYNE, Fenwick Court, Liverpool. Full particulars forwarded on application.

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ROUCH'S "EUREKA" HAND DETECTIVE CAMERA.



GIVES instantaneous pictures eminently adapted for the Optical Lantern, Book Illustrations, or Sketches for the Artist; and is now in great demand by Tourists, Artists, Special Correspondents, and Missionaries. It differs from all others in its compactness, but is invaluable in this special feature, that when its contents of one dozen plates have been exposed the reservoir containing them may be removed **in open daylight**, and a second, third, or fourth reservoir, each containing twelve or more plates, may be inserted in succession, no dark tent for changing plates being now necessary.

Lens, Cameras, and all fittings of very highest class, and made on our premises.

The Improved "Eureka" is covered with several Patents.

Price complete—For Lantern size Plates, £5 17 6; Quarter Plates, £6 12 6.

If reservoir is made detached, 10s. each instrument extra. Additional reservoirs, lantern size, £2 5s.; quarter-plate, £2 10s. each. For all other high-class Photographic apparatus and material, send for ROUCH'S NEW ILLUSTRATED CATALOGUE, 130 pages, post free, 6d.

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OPTICIANS & MANUFACTURERS OF ALL KINDS OF PHOTOGRAPHIC APPARATUS,
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SEND FOR NEW ILLUSTRATED CATALOGUE, JUST PUBLISHED, POST FREE.



VOL. XI. No. 292.]

FRIDAY, MAY 9, 1890.

[PRICE TWOPENCE.]

✿ OUR VIEWS. ✿

To hold as 'twere the mirror up to nature."—*Shakespeare.*

WE are asked to state that it has been thought desirable to take steps to form a Photographic Society at Ealing. Mr. H. W. Peal, of 2, Craven Terrace, Ealing, will be pleased to hear from ladies and gentlemen who may be willing to assist in the formation of a society.

* * * *

To those wishing to procure cheap guide books to assist them in selecting localities for photographic excursions, we can recommend the perusal of Longley's "Holiday Guides," published at 39, Warwick Lane, E.C. Some sixty have been issued at 1d. each; they should certainly be on the bookshelf of every amateur photographer.

* * * *

ON the 22nd inst. Mr. E. J. Wall will read a paper before the members of the Hackney Photographic Society, on "Photographic Chemistry."

* * * *

THE Photographic Exhibition at Newcastle-on-Tyne has been largely attended during the week. 150 slides by Mr. J. W. Wade, of Manchester, have been shown. A lecture upon "Stellar Photography" has been given by Alderman Barkas. To-night Mr. J. H. Gibson, of Hexham, repeats his lecture on "Northumberland, its Antiquities and its River Scenery," and on Saturday there will be a grand vocal concert. During the whole of the time, the exhibition has been largely attended, and the work of the executive has been admirably carried out.

* * * *

WE are pleased to note that "warm tones" are again coming to the front. We venture to predict that matt-surface prints, particularly Aristotype and Obernetter, will show largely at future exhibitions. The very heavy advance in price of platinum salts will tend to push forward other printing processes.

* * * *

THE Worcester Photographic Society intend to proceed this summer with a photographic survey; they have a par-

ticularly happy hunting-ground, and will be able to find much to interest their members and instruct the public.

* * * *

NOTWITHSTANDING some slight opposition being brought into play, the photographic survey of Warwick is being organised. The opposition must be a very strong one that can tell against such old organisers and practical workers as Ald. Stone and Mr. W. J. Harrison, especially as they are ably assisted by an excellent Committee of members of the Society. We can but think that all the photographic societies in the county of Warwick will join in the movement, help with the work, and so divide honours. Mr. Harrison's scheme is by far the most comprehensive of any that have been framed for the conduct of photographic surveys, and we are sure it will be a proud day for him and for Birmingham when prints of the first section are exhibited. Birmingham is the metropolis of the Midlands, and other towns should be content to help make up and work for the survey, rather than desire to cut out their own little piece. We hope Birmingham will not be discouraged, but that the members will cover the whole county and "quit themselves like men."

* * * *

THE Council of the Gloucestershire Photographic Society announce that they intend to hold their triennial photographic exhibition in October of this year. We wish them every success, and shall have more to say about the matter at an early date.

* * * *

WE notice that Mr. T. R. Dallmeyer will read a paper on the 13th inst. before the members of the Photographic Society of Great Britain, on "Reflected Images in Optical Combinations, and their Effect on the Brilliancy of the Final Image;" and Mr. W. England will give his experiences on "Photography with the Flash-light."

* * * *

A CORRESPONDENT wrote us a few days since on the 400 ready promises made by amateurs, and the very tardy

fulfilment of such promises. When photographing, especially in rural districts, the amateur often places himself under an obligation to a villager or inhabitant, and wipes off the obligation most satisfactorily by the *promise* of a print, giving much pleasure to the patient model; but, unfortunately, the promise is too often broken, and at last faith in amateur photographers' promises is lost, the model stoops to the level of being hired, loses the little interest he ever felt, and is more difficult than ever to deal with. Worse still, he looks upon the whole *genus* with camera suspiciously. Many have been guilty of this breaking of promises; we hope these few words prompted by our correspondent will have a salutary effect. We understand "a gay deceiver" of considerable repute sowed promises broadcast in the villages by the Kennett and Avon Canal.

* * * *

THIS week we are able to add to our "Register of Dark-Rooms" more than one hundred, and are quite hopeful that we shall go on increasing until we have a room in every seaside town or touring resort. We shall be very pleased if our subscribers residing in towns where, at present, we have no "dark-room," will allow us to include theirs in our list. Every care is taken in introducing ladies and gentlemen, with generally excellent results. The complaints that reached us last year were very few; chiefly they had reference to untidiness, and the fact of leaving dishes with dirty developers. Our subscribers are under great obligations to those who give free use of their "dark-room," and even where a charge is made it is unpardonable to go away without washing out dishes, measures, etc. This year we have sent a form asking dealers and professionals to state their charge, if any, for changing, developing, etc. In every case this information, and a great deal more, will be given in letters of introduction. Should the charges not be adhered to, we would like to be advised.

In our letter of introduction we shall in many cases be able to secure the use of dark-room belonging to an *amateur*, *professional* or *dealer*, a *photographic society*, or at an *hotel*. The information given and the clerical labour entailed is very considerable, and we have fixed our fee for each town at *sixpence*. Our "dark-rooms" will not be limited to the United Kingdom. We have already secured several on the Continent, and hope to have a room at all the principal holiday resorts. In no case is a town entered in our list unless we have the signed permission of the owner of the dark-room in such town. Our thanks are due to our many subscribers, the Secretary of the Cyclists' Touring Club, and the Britannia Works Company, for the help they have rendered us.

* * * *

WE have received a copy of the rules of the Bilbao Amateur Photographic Society, and are pleased to find that the Society has a considerable number of members, mostly Englishmen. Excursions are arranged from the end of March to the end of September, and in the winter demonstrations are given and papers read.

* * * *

THE fifth annual meeting of the Photographic Convention of the United Kingdom will be held at Chester. The meeting will be opened with a *conversazione* on the 23rd of June, and continue until the 28th. During the week papers will be read, and an exhibition of photographic

apparatus will be held. Excursions to various places of interest will be arranged. The President for the year is Mr. C. H. Bothamley, F.I.C., F.C.S. Further particulars will be announced. There is every reason to anticipate a most successful meeting.

* * * *

THE *Daily Graphic*, writing upon "State Photographers," says:—

"Is photography to play an important part in the making of history? The early story of the world is written in crude pictures, and now that photographs can be made as permanent as the paper they are printed on, there are many reasons why we should revert, with some obvious improvements, to the ancient methods of the Egyptian historians. In 1888, at a conference of photographers, Mr. W. Jerome Harrison, F.G.S., proposed that State photographers should be appointed, whose duty it should be to keep a pictorial record of men and things; and in a little pamphlet recently published is repeated the suggestion, which, by the way, met with the unqualified authority of so great a photographic authority as Captain Abney. There is something very fascinating in Mr. Harrison's idea. Men and cities pass away, and the face of the country is ever changing. Columns of written description only give us a faint idea of the appearance of things in days gone by. We can increase our knowledge of the past but little, but the time will come when the present era will be history, and authentic photographic records would then be invaluable."

* * * *

WE are pleased to hear that a Camera Club has been started in connection with the Toynbee Hall, Commercial Street, Whitechapel. The membership is confined to Toynbee students. Meetings are held on Tuesday evenings.

* * * *

PHOTOGRAPHY, it will be seen, pervades every class of society, and in whatever rank of life it is met with, it is certain that it advances the study of nature and conduces to an appreciation of the wonderful works around us and in our midst. Photography gives a healthful occupation for the body, has an elevating influence upon the mind, cultivating a love for the beautiful, and a study of the marvels and mysteries of the science of chemistry.

* * * *

THE *Century Magazine* for May contains a most entertaining story entitled "The Romance of Two Cameras," which will doubtless be widely read by amateur photographers. The following rather smart definition of an "amateur" from the lips of a child occurs in the text:—" 'Amateur;' what does that mean, I wonder?" Receiving no reply, he answered his query thus: "Well, I guess it's someone who ain't very mature!" Miss Elizabeth W. Champney, the writer of the story, will, we are sure, be thanked by many of our readers for the haze of fiction which she has thrown around the camera.

* * * *

SATURDAY, the 10th inst., has been appointed for the private view of the Summer Exhibition (the twenty-first) of the 19th Century Art Society, at the Conduit Street Galleries, and the Exhibition will open to the public on Monday, the 12th inst.

* * * *

MR. F. CROSOER, of 13, Market Place, Faversham, the Hon. Secretary of the Faversham Photographic Society will be pleased to hear from intending members.

THE ROYAL SOCIETY OF PAINTERS IN WATER COLOURS.

LANDSCAPE is again the prevailing feature of this year's exhibition. The Society suffers from its exclusiveness as a close corporation, in so far as its sober-going older members remain tied down to old-fashioned methods and ideas; but it gains in not admitting strangers to decorate its walls, because by that means the number of exhibits is kept within reasonable limits.

Mr. Goodwin's "Zermat" (No. 10) is one of the most charming of that artist's landscape sketches, and would make a most satisfactory photograph. Mr. Callow has a number of pretty "bits" from old-world towns of Germany and Italy. He has a knack of reconstructing the mediæval picturesqueness of streets and houses, out of all that modern improvements (!) have left for him to work from, but he certainly does not render his subjects as they are: all truthfulness is lost by the demands he makes upon his imagination, and by the finicking style of his painting, which leads him to elaborate with unnecessary care every unessential detail till the broad truths of Nature's beauty are all but lost amid the enumeration of trivialities. For a different reason, the work of Miss Clara Montalba seems to a photographer little short of grotesque. Her mannerism causes this artist to adopt an identical treatment for the scenery of England, of Holland, and of Italy, and, forgetting the infinitely different and distinct beauties with which a bountiful nature has blessed both north and south, she treats both with a dull uniformity until there is nothing left to admire in her work but the mere technique.

Taking the other extreme, let us look for a moment at Mr. R. W. Allan's pictures—No. 165, for instance. He succeeds in catching the broad effects of nature, and to that extent produces satisfactory work, and with his composition and his rendering of light and shade we have no cause to grumble, but why does he lay his colour on in harsh patches, and spoil an effect which a little more pains and elaboration would have served to perfect? No. 167 is, perhaps, his most successful effort.

Those artists who, being prompted neither by narrow-minded prejudice nor by jealousy, are ready to recognise photography as a handmaid to art, acknowledge gratefully that it has much to teach them, not only with regard to perspective, but also by training the eye to detect with greater accuracy the contrast of light and shade and the relations between the subordinate and the principal objects in composition. Such an artist is Mr. Melville; he has but one picture on view this year, "The North Gate of Bagdad," No. 75, a most interesting and characteristic sketch, the entire truthfulness of which carries with it its own reward. Of other Eastern scenes, notice Mr. Robertson's work, Nos. 33 and 53, with the theatrical element freely rampant and irrepressible.

Mr. David Murray is another artist who goes straight to nature. Nothing could be more excellent than the effect produced in No. 67, "The End of the Flood," to our mind the best picture in the gallery; Nos. 131 and 136, however, are but little inferior. Of the other pictures worth notice Sir John Gilbert's "Autumn" is expressive. Mr. Goddall has a fine interior of a Cairo Mosque, an excellent architectural study. Stacey Mark's "A Rare Copy" is a good figure study, and worthy of this artist's reputation. There are one or two curiosities; for instance, the

portrait entitled "The Worshipful Master," by Carl Haag, where one side of the face is painted in strong sunlight, an effect which we remember was practised by inferior portrait photographers some years ago, but which has happily now gone entirely out of fashion. No. 177 is remarkable because of its excessive vulgarity, and recalls a certain much-exhibited photograph entitled "A Jubilee Joke;" both artist and photographer have much to learn as to the "choice of subject," and might with profit study Ruskin on "Greatness of Style" in painting. Both 69 and 164 betoken weird imagination, but little else. Of sea pieces, Mr. Henry Moore's "Off the Cornish Coast," is immeasurably the best (No. 120); and No. 62, "Bowling Along," is full of motion. There is but little portraiture, and only one picture of real merit, Mr. Henshall's No. 161; but, as we have said, the strength of the exhibition lies in the landscapes, which will well repay the reader's visit.

Letters to the Editor.

WANTED, A PORTABLE AND INEXPENSIVE "DETECTIVE" CAMERA.

SIR,—Will you allow me, through the medium of your influential journal, to draw the attention of the manufacturers of photographic apparatus to what I know to be a real want to many amateurs. Those who travel often feel how much they lose in the way of taking photographs of interesting scenes from not possessing a camera which can be carried easily, and used without attracting universal attention. As far as I know, it is impossible to procure a camera other than toys, which is not most obviously a photographic apparatus. In a recent journey through North Africa I carried a Kodak, as that approaches nearest to a detective of any I know. Its size, however, and evident purpose on close inspection, often prevented it being used without curious observation. Its cost, moreover, is high, and the difficulty of developing its films is a decided objection. Surely among the hundreds of English manufacturers who now waste their ingenuity in devising new shutters and fantastic stands, some might be found practical enough to construct a useful and inexpensive hand-camera. What seems to me to be wanted is a tubular-shaped, strong, metal camera, squared at the base for the dark slide (not the everlasting and awkward rectangular box), 6 by 3 by 3, having a simple shutter that when closed would entirely hide the front aperture. All the usual complicated interior mechanism might with advantage be replaced by an ordinary arrangement for a thin metal double slide, as no man can possibly want to take from 12 to 100 photographs in as many minutes, which appears to be the idea of the manufacturers of the many hand-cameras now in the market. Extra dark slides can always be carried in the pocket. The slide, moreover, by a simple mechanical contrivance should be made to open *inside* the camera without the necessity of any external withdrawal of flaps. The whole should be thickly coated with a good layer of permanent black paint. Now as to cost. It is, I think, quite time that a public protest should be made against the absurd prices asked for cameras, on the ground of the expense of making their lenses. I am glad to see your correspondent, Mr. F. Davis, calls attention to the way the price of lenses keeps up, out of all proportion to the cost of production, and quotes the case of the Kodak (price £5 5s. and £7), the glass of which is stated to be procurable for sixpence! Surely the cost of a fairly good lens for so-called "detective" work can hardly exceed half a crown. The rest of the instrument could be made for something under five shillings. Under these circumstances I feel certain that if some enterprising English firm will be bold enough to step outside the traditional frontiers of the business, and make some such camera as I have specified, and sell it at a reasonable profit—say £1—his reward will be great. The amateur photographer is a long-suffering mortal, and has enriched many; but even he may one day refuse to be further put upon. The English manufacturer may again be too late, as the Americans have no tradition to prejudice *their* trade, and the Germans have always the advan-

tage of cheap labour, and the faculty of appropriating the ideas of others, to compensate for their own lack of originality.—I am, yours faithfully,
F. G. B.
Trieste, April 27th, 1890.

* * * *

ILFORD SCHOLARSHIP.

SIR,—The suggestion made by "Silver Medallist" in your last issue is part of one made in my first letter on the subject. It will, however, be seen that if carried out in part, as he proposes, the competition would not be an *open* one, and, further, the necessary regulations would devolve on ourselves, a position we wish to avoid, as we deprecate all that is "commercial" in connection with the subject.

No, we must wait until one or other of the plans put forward by us can be carried out on its broadest basis by some authoritative body, which consummation we hope will be reached before long.—Yours faithfully,
JOHN HOWSON.
Ilford, May 3rd, 1890.

* * * *

THOMAS'S PLATES.

SIR,—Some time ago, in your "Query" columns, I asked whether the charge for Thomas's plates in Switzerland was not excessive, and I write this letter in the hope that Messrs. Thomas will see their way to cheapen the sale of their plates in Switzerland. The price of Ilford (half-plate ordinary) plates in England is 2s. 3d. (retail), which, reckoning a franc as 9d., makes the price 3 francs. In Geneva you can get them for 3 fr. 20 c., the agent therefore gaining only 20 centimes, *inclusive* of carriage and duty. The price of Thomas's half-plates (T. C. L.) in England is 3s. 6d., which is 4 fr. 60 c. The agent in Lausanne (the only one in Switzerland) asks 6 fr. 50 c., which leaves him a profit of 1 fr. 90 c., inclusive of carriage and duty. I hope Messrs. Thomas will see to this, as it quite prohibits people from using their plates, which I have always done till now. Excuse me taking up so much space of your valuable paper.—Yours, etc.,
H. FERRIER-KERE.
Bex, Suisse.

* * * *

SOCIETY FOR CHISWICK.

SIR,—May I be allowed to take this opportunity of informing your correspondent "G. B." and other photographers residing in the neighbourhood of Chiswick, that the West London Photographic Society, of which I have the honour to be Secretary, is the representative Society of the district, many of the members, including the President and myself, living in Chiswick. The Society since its inauguration has held its meetings at the Addison Hall, W., but the Council, if the sanction of the general body of members can be obtained, are contemplating changing the place of meeting to Hammersmith, which it is thought will be more central and readily accessible from other parts, including Chiswick. I may add that the Society is open to both ladies and gentlemen, and if "G. B." or other enquirers, will communicate with me, I shall be glad to give them every information. Thanking you in anticipation, yours very truly,
JOHN A. HODGES.
May 5th, 1890.

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PHOTOGRAPHIC EXHIBITION.

SIR,—You will probably be interested to hear, and also probably be good enough to notice in your paper, that the Committee formed for arranging the forthcoming Exhibition of photographs and apparatus at Drapers' Hall, Throgmorton Street, E.C., have held several meetings, and the matter is being pushed energetically forward, a number of applications having been already received for space. The Exhibition, as you probably know, is not of amateur work at all, but confined to professional photographers and photographic apparatus manufacturers, but it will be open free to everybody, so doubtless it will be well patronised by all interested in photography. It is expected to be opened by a *conversazione* on the evening of May 30th by the Lord Mayor, and will then be open daily for about ten days.

The Secretary of the London Chamber of Commerce is affording every assistance possible to ensure the affair being very successful, and from the names already received as exhibitors, it is anticipated that as fine a collection of photographs and apparatus will be shown as has ever been got together.—I am, Sir, yours faithfully,
THOS. P. WATSON
(Member of the Committee of Management.)
May 6th, 1890

Chemistry for Photographers.

By C. H. BOTHAMLEY, F.I.C., F.C.S.

(The Yorkshire College, Victoria University).

(Continued from page 290.)

Combining Weights of the Elements.—Consideration of the facts summarised in the laws of chemical combination leads us to suppose that it should be possible to select for each element a number which will represent the proportion by weight in which it will combine with the other elements. By combining these results with certain others which will be considered afterwards, we can, in fact, select such numbers, and they are called the combining weights, or combining proportions of the elements. *The combining weights of the elements are numbers representing the proportions by weight in which they unite together.* An element always enters into combination in the proportion of its combining weight or some simple multiple of it.

Notice carefully that these numbers are *proportions*, and hold good whatever the value of the particular unit of weight used; 1 grm. hydrogen combines with 35.4 grms. of chlorine, 1 oz. of hydrogen combines with 35.4 ozs. of chlorine, 1 ton of hydrogen combines with 1 ton of chlorine. Always the same *proportion* whatever the magnitude of the unit, and it is imperative that the same unit of weight should be used throughout a calculation or series of calculations.

Since the combining numbers are proportions, they must be referred to some standard. Hydrogen is the lightest substance known, and hence is commonly taken as the unit; its combining weight is 1, and the combining weights of the other elements are the proportions by weight which will combine with or displace one part of hydrogen or some simple multiple thereof. Sometimes oxygen is used as the standard; its combining weight is taken as 16, and all the others are referred to it. The numbers obtained in this way are not quite identical with those obtained when hydrogen is the unit; the latter are given in the first column of the table, and the former in the second column. Moreover, if you carefully examine the two sets of numbers, you will see that they have not always quite the same relation to one another. The numbers are the results of experiment, and experiments, however carefully made, are liable to small errors, and some of the differences referred to may be traced to errors of this kind. In several cases the proper values of these numbers are not accurately known. The numbers in the first column are taken from Thorpe's "Dictionary of Applied Chemistry," and those in the second from Ostwald's "Grundriss der Allgemeine Chemie," and they show that chemists have not absolute knowledge even on important points like these.

The CHEMICAL EQUIVALENT of an element is the quantity of it which combines with or displaces one part by weight of hydrogen.

Hydrochloric acid.	Silver chloride.	Potassium chloride.
Hydrogen 1 pt.	Silver 107.7 pts.	Potassium 39.0 pts.
Chlorine 35.4 pts.	Chlorine 35.4 "	Chlorine 35.4 "
Hydrobromic acid.	Silver bromide.	Potassium bromide.
Hydrogen 1 pt.	Silver 107.7 pts.	Potassium 39.0 pts.
Bromine 79.8 pts.	Bromine 79.8 "	Bromine 79.8 "
Water.	Ammonia.	Sulphuretted hydrogen.
Hydrogen 2.0 pts.	Hydrogen 3 pts.	Hydrogen 2 pts.
Oxygen 31.92 "	Nitrogen 14 "	Sulphur 32 "

35.4 is the equivalent of chlorine, 79.8 of bromine, 107.7 of silver, 39.0 of potassium, 7.98 of oxygen, 4.67 of nitrogen, and 16 of sulphur. In a few instances the equivalent and the combining weight are identical, but in most cases the latter is a simple multiple of the former.

Can we explain these facts? Why should the elements always combine in fixed proportions, and why should the higher proportions always be simple multiples of the lowest? At present we have no absolutely certain explanation, but we are able to frame a *theory* which is capable of explaining these facts perfectly, and at the same time is not contrary to any other known facts. In 1803, John Dalton, of Manchester, who was the first to really establish the laws of definite and multiple proportion, endeavoured to explain the facts by reviving an idea which is as old as philosophy itself, namely, the idea that all matter is composed of extremely minute indivisible particles called *atoms*. The idea is now often called *Dalton's atomic theory*, but Dalton was not the originator of the theory; he revived it, and showed how it would explain the known facts of chemistry, and the agreement which was shown to exist between the facts and the theory established the latter on a much firmer basis than it had had before. Since Dalton's time the idea has undergone considerable change and development, and it is now known as the *molecular theory*. It forms an essential part of all modern chemical and physical theories.

Molecules and Atoms.—If we place a small drop of water, or a particle of red mercuric oxide, under a microscope, we can divide them into particles so small that they can only just be seen, but by the help of heat or electricity we can carry the sub-divisions of the particles much further than the eye can follow. We come at last, however, to a point at which our water and mercuric oxide cease to exist as such; they split up respectively into hydrogen and oxygen (experiment 26) and mercury and oxygen (experiment 24). These facts and hundreds of others of the same kind show that there is such a thing as the *smallest possible* particle of a substance, and these smallest possible particles we call *molecules*.

A *MOLECULE* is the *smallest particle of any substance that can exist by itself, in the free state, and yet possess all the properties which distinguish the substance*.

A molecule of water is the smallest particle of water which can exist by itself under any conditions, and yet possess all the properties which distinguish water from anything else. A molecule of mercuric oxide is the smallest particle which can exist by itself, and have all the properties of mercuric oxide. If the molecules are subdivided in any way, they split up into something quite different.

Notice that the definition of molecules includes both elements and compounds.

Molecules are inconceivably minute. Even the most powerful microscope made is quite incapable of showing the separate molecules in a drop of water; we should require an instrument at least as powerful again. Small as they are, they consist of particles still smaller, for a molecule of water splits up into two distinct substances, hydrogen and oxygen, and a molecule of mercuric oxide splits up into mercury and oxygen. The smaller particles of which molecules are composed are termed *atoms*.

An *ATOM* is the *smallest particle of an element which can exist in or make part of a molecule of one of its compounds*.

Notice that this definition includes elements only; it would be incorrect to speak of the atom of a compound. The term "atom" means literally "indivisible," but the chemist is not concerned with the question whether they are absolutely indivisible or not; he simply asserts that they do not become divided in any chemical reactions with which he is acquainted.

We, therefore, look upon all substances as being composed of minute particles or molecules, which consist of still smaller particles or atoms of the elements. In the case of compounds the atoms composing the molecules are of different kinds, but the molecules of an element are of course built up of atoms which are all of the same kind.

Photographic References.

BY MAJOR J. FORTUNÉ NOTT.

ACCESSORY APPLIANCES.

(Continued from page 292.)

The Shutter (continued).—The size of the lens for which it is intended must be taken into consideration when selecting a suitable shutter. Some forms that work in a very satisfactory manner when used on a small lens are utter failures on some of the larger sizes. The greater area to be uncovered and covered taxes the effectiveness of the driving mechanism, frequently necessitating its acceleration of speed to such a point that it ceases to be reliable. Again, by having continually to put the extra strain upon it, the chances of its getting out of order are considerably increased.

Some of the most perfect shutters, as far as the working arrangements are concerned, are made in such a heavy and cumbersome form that for ordinary purposes their use is out of the question. Upon the subject of shutters, however, no positive advice can be given in the way of recommending any particular form, because one without faults has not been invented; all that can be said of a practical value is on the negative side of the matter, by drawing attention to those features which a shutter should not possess. When these points are known, and the reasons that compel them to be entered on the list of drawbacks to a shutter's effectiveness are fully appreciated, then the photographer has been given as much assistance in the work of selecting a good article as is possible. Individuality in requirements and method of working, however, enter so strongly into this feature of photography, that personal experience is the safest guide. A novice in photographic matters is therefore recommended to content himself at first with the cheap and simple article known as the "drop." By its aid he will acquire the experience requisite in making his subsequent selection among the more expensive and complicated articles.

As before remarked, at no point in the movement of the shutter should there be any vibration communicated to the camera. The driving mechanism, which should possess an easy and accurate means of regulating its speed, should not be of a complicated character. In fact, in this as in other matters, the more simple it is, the better in every way. Elastic bands are not recommended for several reasons, the chief one being that they vary in power, do not admit of accurate adjustment, and are not reliable, the weather affecting their elasticity, and under some conditions making them rot. But, on the principle inculcated in the doctrine of choosing the lesser of two evils, the elastic-band method of driving the shutter is far preferable to many of the complicated metal springs now employed in many makes of shutter. The annoyance they can cause can never be fully appreciated, unless one has been a sufferer from this source of photographic adversity. Dampness will cause them to rust, and even with the exercise of every care possible, the springs will break, and, with that immorality which seemingly actuates inanimate things, this breaking will occur at a time when it can be felt as an overwhelming disaster, and its repairment is impossible. Under such circumstances the value of the simple elastic-band method whose derangements are so easily rectified is borne in upon the sufferer's mind in such a forcible manner that any amount of subsequent argument can never completely efface it.

Experience, therefore, dictates the common-sense axiom that elastic bands, even with all their imperfections, should only be discarded in favour of a mechanism of so simple a

character that it can easily be repaired by the purchaser himself on any occasion that it may get out of order. Moreover, it should not work in a manner that the operator is in doubt respecting its performance, or in other words its action should be seen. In some forms of shutter—notably among those that work in the diaphragm slot of the lens—besides there being no visible means of finding out while standing at the back of the camera that the shutter is ready for exposure, there does not exist any sign showing the fact that it has done its work after being released. In some a click more or less audible occurs, but as there are generally several clicks made at different points of their performance, this sign is, even under favourable conditions, somewhat unreliable, a fact learnt from practical experience; again, any noise or a slight attack of deafness destroys the value of this sign and causes anxiety. Another fault in these diaphragm-slot-working shutters is the fact that the metal covering-plate has to be made so thin that any slight accidental bending or even dust from a dusty road will cause it to stick, or not to travel far enough home to keep out all light.*

The best place for a shutter is the front of the camera itself, and doubtless in time cameras will be so constructed as to possess this desirable feature, one which will make the purchasing of a shutter for every make of lens employed quite unnecessary, and so considerably reduce the expense and cumbersomeness of the complete apparatus.

Theoretically speaking, the next best place for the shutter is between the lenses, but this necessitates the employment of such delicate mechanism, and sometimes the cutting of the lens mount, that, as before stated, the increased liability to derangement in this form of shutters practically debars them from being universally recommended.

The worst position of all for the shutter is on the hood of the lens, but, as a matter of fact, it is here that the majority of those shutters which in other respects are most suitable for general work have to be fixed. In selecting a shutter of this character care should be taken that it is made to fit the lens so that it in no way can cut off any rays of light.

A good way to test the efficiency of a shutter, and to gain an idea of the amount of light that it admits to the plate during the various phases of its working, is to have a light placed behind the camera, and to throw an illuminated disc upon a screen or optical lantern sheet. A simpler way is to place the shutter, when possible, upon the lens of a lantern. The disc being enlarged as far as the capacity of the appliances will permit, the working of the shutter can be easily studied, and a fair notion of the speed at which it travels is impressed upon the mind.

Hints about Shutters.—If a shutter is employed that has to be driven by elastic bands, always keep a good reserve of these articles with the lens; they can, in fact, be kept round the lens mount itself. If, on the other hand, a watch spring forms its motive power, learn to take it out and to replace it, and have two or three fresh springs always ready in case of need. As every carrier of a watch knows, these springs are unreliable; one may last for years, and others will break one after another with very little wear and tear and from no recognisable reason. The photographer employing this species of mechanism should, therefore, be prepared for every contingency. The value of oil upon the working apparatus should be learnt, and constantly be borne in

mind. Some small leather rings, fitting accurately one into the other, the larger one being the size of the hood of the shutter, are frequently of great use, for one of them will assist in tightening the shutter's hold on the lens, and occasionally can be employed for adapting the shutter to any smaller sized lenses than the one for which it was intended. Always keep the shutter when not in use in a small box or case, wherein it is secured from accidental injury. Before employing the shutter give it a careful dusting, and see that the piping of the pneumatic release is firmly attached, and is in good working order. Remember the rubber of which it is constructed, if not kept in constant use, is very liable to harden and crack. If this species of deterioration has commenced, no reliance should be placed upon it.

A beginner in the art is also strongly advised to grasp as soon as possible the facts that are necessary for the intelligent employment of the shutter in photography. There is no glory whatever to be derived from taking express trains, and the era when an educated listener can be impressed by the intelligence that a photograph was taken in the 500th of a second, or similarly fabulous statement, has passed away. The knowledge now considered necessary for good work is in the opposite direction. The discovery of the lowest speed of shutter at which moving objects can be photographed without being represented with a blurred outline, and the acquisition of the art of making slow exposures, are attributes conducive to good workmanship with the camera.

(To be continued.)

◀————▶ Rambling Papers.—XII.

By W. K. BURTON.

KEEPING THE SENSITISING BATH UP TO STRENGTH.

WHILST on the subject of silver printing, I wish to say a word or two on the above mentioned subject. There is a good deal of difference of opinion as to what is the best strength of bath to use for sensitising albumenised paper, but all are agreed that to turn out uniform work it is necessary to keep the strength fairly up to some fixed standard. I have tested, volumetrically, the strength of the silver baths of a good many photographers, both professional and amateur, and have almost always found that they are much weaker than the photographer supposed. This arose from the fact that the only test for strength ever made was by the "argentometer." Now, it has been pointed out times out of number that the argentometer, although it may be used to test fairly approximately a newly mixed silver nitrate solution—or, rather, one that has not been used, whether freshly mixed or not—yet it is perfectly useless for testing solutions that have been used for some time, on account of the soluble salts, such as nitrate of ammonium, that are added to them by the decomposition of the salting material of the paper.

It is a very simple thing to make a rough volumetrical test. I have described very fully how it may be done, in my "Practical Guide to Printing Processes," already referred to, but there are many who *will not* take the trouble to make such a test. To these I recommend the following procedure. Do without any estimation at all, but keep a stock solution *twice as strong as the bath that you wish to work with*, and merely make up, after each time of sensitising, whatever loss of bath there is, with this stock solution. If, for example, you wish to work with a 60-grain bath, make up the stock solution to 120 grs. to the ounce.

It is true that there is bound to be some variation by this

* Note.—A fogged batch of plates due to this defect was shown me very lately as the result of a day's photographing, under circumstances of so exceptional a character that this undiscovered fault in the shutter, which was a very expensive one, besides having rendered the results of a considerable expenditure practically *nil*, had caused annoyance of a more than ordinarily exasperating character.

method, and that it would not work at all in the case of very weak baths, but, with the strengths of baths generally now recommended, and the qualities of albumenised paper generally found in the market, it will be found that the variation is much less than when an argentometer is relied on.

RETOUCHING FOR AMATEURS.

I advise every amateur photographer who attempts portraiture at all to learn a little retouching. There are some who say that all, even the slightest amount of retouching is to be condemned. That retouching is carried to such an extent as utterly to destroy the art qualities of the portraits issued by the average professional photographer, is a thing that I am quite willing to admit, although the fault really lies with the public who pay for photographs, and demand that these photographs shall flatter them, rather than with the photographer, who would willingly enough dispense with the trouble and expense of retouching; but it is quite absurd to condemn all kinds of retouching. Such condemnation would be sound only on one of two assumptions—either that an untouched negative gave as absolutely true a representation of the subject as is possible in monochrome, or that, there being departures from this ideally high standard, it was impossible to acquire manipulative dexterity enough to correct them. Now neither of these assumptions is correct. To show the absurdity of the condemnation of *all* retouching, it is best to take an extreme case—not a case that is not likely to occur in actual practice, but one that shows the extreme need of at least *some* retouching.

Probably everyone who has ever attempted to take portraits knows what “incipient freckles” are, knows how that these may be scarcely visible to the eye at all, and yet may come out in a photograph most strongly marked. The fact is, of course, that the difference between the colour of the freckles and of the surrounding skin is slight in the matter of visible colour, but is great in the matter of actinic. It is, in fact, the same case, exactly, as that of the grass mentioned in one of my recent papers, which appeared to the eye to be of a uniform tint, but came out piebald in the photograph. I have one particular case in my mind as I write. I photographed, some time ago, a young girl. She would generally have been described as having a “particularly clear complexion.” I certainly did not, until I had taken the photographs, and knew that they were there, notice any spots on her face at all, but all the negatives came out positively covered with them, and the prints gave the impression of a person who was suffering badly from small-pox! Now who in his senses would say that the pencil should not be used to take out these spots?

It will be urged that this is an extreme case, and that it does not justify the practice of even a *moderate* amount of retouching as a general rule. To this I reply, that in the case I cited the defect is extreme only in degree, and that ninety-nine out of a hundred portrait negatives show faults that are the same or similar in kind, and that differ in degree only from that described. That is to say, almost all portrait negatives show, in an exaggerated form, certain defects that actually do exist, but sometimes to so small an extent as to be unnoticeable, and it is not only *allowable* to remove them, but it is *essential to a realistic result to do so*.

It may be said that these exaggerations would cease were orthochromatic plates used, with a yellow screen or a yellow-glazed studio, such as I suggested in a recent number. Perhaps they would, and when I see portrait negatives produced in practice, that do not show these exaggerations, then will I admit that retouching is a sin. Meantime it is not the general practice to use orthochromatic plates for portraiture.

It is very easy to acquire the manipulative skill to do the amount of retouching that is indicated above. The tempta-

tion, when such has been acquired, is to do more than the justifiable amount of retouching.

It is very difficult to give any instructions that will assist the beginner in learning to retouch. There are several hand-books on the subject that should be studied, but, after all, practice goes a great deal farther than anything else. Let the beginner take some negative that he does not value much, but that shows defects of the kind mentioned, and, taking a print from it, so that he may see the defects both in negative and positive, prepare the varnished surface with some retouching medium, and begin working with a sharp-pointed pencil, to obliterate the defects. He will find it very difficult at first, and the last state of the negative will probably be worse than the first, but if he perseveres, he will find that, after a dozen or two of failures, he is gradually gaining skill, and before very long he will be able to do with ease what appeared quite impossible at first.

It is true that there occasionally occur cases of portrait negatives that it would be simple sacrilege to touch with a pencil, but they are few and far between, I believe, even in the case of those who may in *all cases* select their subjects. It should, of course, be the aspiration of all photographers to get as many such negatives as possible, and the few who practice photography *only* as an art may get a fair number; but how many are there who can do so? The professional photographer certainly cannot, and the amateur must either be much less good-natured than the average amateur is, or else must have far fewer friends than fall to the lot of most of them, unless he finds himself bound, at times, to take the portraits of people whose negatives will be very different from the ideal ones that I have just referred to. And then what a difference if he can produce something that is a fairly favourable likeness—without necessary flattering at all—instead of producing the spotty and blotchy abomination that is the only result of the efforts of so large a number of amateurs! Until some one can show that it is possible to avoid these abominations, or, having got them, to improve them by any means other than that of retouching, I hold that every amateur who intends to take portraits at all, should learn to practice the art to the small extent that I have indicated.

STEREOSCOPIC SLIDES.—Amongst the many readers of the AMATEUR PHOTOGRAPHER there may be some who by frequent examination of their stereoscopes have tired of their slides. Mr. C. J. Curtis, of 6, Tring Villas, Aylesbury, Bucks, would be glad if any such would communicate with him.

PHOTOGRAPHERS' BENEVOLENT ASSOC:—At the adjourned annual general meeting held on Friday, May 2nd, at 181, Aldersgate Street, E.C., the President (Mr. J. Traill Taylor) in the chair, the Chairman, in opening the proceedings, said the business of the evening was the election of officers for the ensuing year. The new rules which had been passed by the meeting held on February 14th had now received the sanction of the Registrar-General of Friendly Societies, and the Association was now, and would in future be, bound by them. The election was then proceeded with, the following gentlemen now constituting the officers of the Association:—President, Mr. J. Traill Taylor; Trustees, Captain W. de W. Abney, C.B., F.R.S., and Mr. W. S. Bird; Treasurer, Mr. John Spiller, F.C.S.; Committee, Messrs. H. D. Atkinson, William Bedford, William Benham, E. Clifton, T. J. Collins, F. W. Cox, T. E. Freshwater, G. T. Harris, A. Mackie, J. D. O'Connor, J. S. Rolfe, and E. A. Whittemore; Auditors, Messrs. W. Holt, E. W. Parfitt, H. J. White, and J. W. Zahnsdorf. The Hon. Solicitor, Mr. William Benham, was also reappointed, and the election of Mr. H. J. Beasley to the post of Hon. Secretary confirmed. The meeting terminated by passing votes of thanks to the various officers for the past year, and to the Hon. Solicitor for his special services. Twelve new subscribers were enrolled. All communications should be addressed to the Hon. Secretary, Mr. H. J. Beasley, 65 and 66, Chancery Lane.

Photo-Zincography.

By W. K. BURTON AND Y. ISAWA.

At a recent meeting of the members of the Photographic Society of Japan, a demonstration was given on "Photo-Zincography," a process whereby blocks ready to be put up alongside of type can be photographically produced from any line drawing or sketch. The following is a very brief description of the various steps of the process, when, for example, it is wished to get a block from a photograph. A very light print is taken from the negative on common photographic paper, but is neither toned nor fixed. The outline is gone over with a pen and the best quality of Chinese ink, and as much line shading is put in as may seem desirable, after which the print is put in a bath of a solution of bichloride of mercury. This quickly makes the photograph entirely disappear, the line sketch only remaining. If a photograph is not to be used, the artist sketches directly with black ink on pure white paper. In either case the result is the same, a line sketch that is copied in the camera, the wet process being used by preference. The negative must be reversed, and the reversal is secured either by using a reversing mirror in copying or by stripping the film of the negative from the glass and turning it over. A polished zinc plate is next coated with a mixture of albumen, water, and bi-chromate of either ammonium or potassium and, when dry, is exposed under the negative, a faintly visible image resulting. The plate is then covered with a very thin uniform coating of a greasy ink applied by a roller, and is dipped in water. In a minute or two the ink begins to leave all the plate but those parts representing the lines and, the action being helped by rubbing gently with a piece of cotton wool, there is soon an image in printer's ink on the zinc plate. The plate is dried and a quantity of powdered resin is dusted over it; this sticks to the greasy lines, but not to the rest of the surface, and a slight heating is enough to incorporate it with the ink. There is now a sufficient "resist" to make it possible to etch away some of the metal between the lines, and the plate accordingly goes into a bath of weak nitric acid. There is only one reason why the etching should not be continued till the whole of the necessary relief is got at one operation, and that is that the acid has a tendency to "under-cut" the lines. It is, therefore, necessary to protect the edges as well as the tops of the lines. To effect this protection the plate is taken from the bath after a very little relief has been got, is dried, and is heated just to that point at which powdered resin will stick to the lines, but not to the rest of the plate. The plate is then again powdered with resin and, when the lines have taken all that they will, it is heated enough to melt the resin and make it run down the sides of the lines. The plate then stands an etching in a somewhat stronger bath, and the process is repeated five or ten times, according to the coarseness or fineness of the work.

The lines thus got are firm and solid, but there are generally slight ridges running along the sides of them produced by the different etchings. To get rid of these, the plate is cleansed of all resin, and is inked up with a smooth roller which touches only the tops of the lines. The operation of dusting with resin and heating is once more gone through, and the plate has its last etching or last but one, for it is sometimes advisable to repeat this etching twice—when it is ready to be trimmed and mounted type-high for the printer.

Samples of every stage of the process from the original negative to a block that had been printed in a machine, and prints from them, were shown, and the process of developing the image on the zinc and of etching was demonstrated.

The demonstrators explained that it was claimed that the whole process, from the taking of a photograph to the production of a finished block, could be gone through in two hours in England. They doubted this, but could easily do the work in from six to eight hours. The block really could be produced in two hours from the time of taking the exposed zinc plate from the printing frame. They farther explained that the advantage of the process was that an exact copy of any line subject, no matter how complicated, could be made in a few hours, either of the same size as the original, or smaller, or larger.

Amateur Work contains directions for making a simple camera for taking pinhole photographs, and there are a number of interesting and useful articles on other subjects.

Our Contemporaries at Home and Abroad.

THE *American Amateur Photographer* (Brunswick, Me.) says, "If any of our readers find it necessary to make negatives of the kind technically known as 'black and white,' they will find that the use of a slow plate, the ferrous-oxalate developer, and Wilde's bromo-iodine restrainer will yield unexceptional results even on gelatine plates. The restrainer is made as follows:—

(1) Iodine	..	..	..	..	15 grs.
Alcohol	..	..	..	..	2 ozs.
(2) Potassium bromide	..	..	..	..	200 grs.
Water	..	..	..	..	2 ozs.

The solutions are mixed and one-half a dram of the mixture is added to each ounce of the developer. The plate must be exposed twice as long as would be necessary in ordinary work, and if the object is to produce negatives for photo-mechanical work the plates should be thinly coated with a slow emulsion and backed with sheets of dead-black paper smeared with glycerine and squeegeed into optical contact. Articles: "A Trip to the Windward Islands, etc.," "Helps in the Studio," "Photo-Micrography," "Pyrotechnical Photography," "Hand-Cameras," "A Panoramic Camera," etc.

The *Photographic Times* (New York) says, "That photography has extended its sphere of usefulness into all the professions and nearly all occupations, is becoming generally known in these days. The camera has been for some time a valued instrument on board the men-of-war of this country and other nations, as well as in the armies of the various governments; but until a letter, dated March 20th of the current year, reached us from Malta, signed by Alfred Davis, 'Sergeant of Photography' of Royal Engineers, we did not know that photography had received official recognition in the manner thus indicated. Sergeant-Photographer Davis is evidently an enterprising worker in our art. He seeks for all the information on the subject that he can get, and keeps up with the literature of the science as best he may. 'Will you kindly forward me, at your earliest convenience,' he writes, 'The American Annual of Photography and Photographic Times Almanac for 1890?' and adds, 'You might put up a catalogue of your publications, if convenient.' We shall be glad to hear from Sergeant-Photographer Davis again." Articles: "Composite Photography," "Exhibition of Photographs at the New York Camera Club," "Platinum Toning," "What Photography will not Do," "Views of Southern Battlefields," etc.

The *Photographic Globe* (New York): "A method for making blue-print positives which we believe to be original with us, and which is easily tried, is recommended, but as not every picture looks well in this monochromatic tint, it is advisable to use such negatives as will yield results not discordant with nature. For instance, it is not artistic to render a portrait or an interior in blue, because it jars upon the eye, the nature of its effect being extravagant. Ice scenes, marine views, and landscapes replete with vegetation look particularly pleasing as blue prints, and as blue positives they are rich and natural. Take good ferro-prussiate paper of thin texture, and make your print very dark, giving it about twice as much exposure to the sunlight as you ordinarily would. The tone of the print can be modified to a purplish blue by adding a few drops of ammonia to water, and floating it for a few moments in it. Care should be taken not to have the solution too strong, as it is liable to bleach the print, and when the desired tone is attained, the print should be taken out and thoroughly washed, in hot water if you like. Wash thoroughly, and lay it between sheets of newspaper under pressure until dry. Float it in a mixture, for ten minutes, of

Benzine	..	..	..	..	20 ozs.
Raw linseed oil	..	..	..	..	8 "

and transfer it to a clean plate of glass the size of the print. Now place another clean glass plate over the surface and subject it to a heavy pressure for about twelve hours. The result will be a translucent positive, which will look as if it were backed with ground-glass. Articles: "The Daguerre Monument," "Manipulation in Flash-Light Photography," "A Tropical Tramp of the Tripod," "Taking Pictures at Night," etc.

The *American Journal of Photography* (Philadelphia), in an article on "Focussing in Landscape Photography," says, "This question of optical definition includes those of focussing and of

the selection of stops of the proper size. Now there has been much arguing whether the extreme distance should be as sharp as the foreground, and the idea has been advanced that inasmuch as the eye sees near objects more distinctly than distant ones, the latter should not be absolutely sharp in the photograph. This we think to be entirely a mistake. In the healthy human eye, everything that is seen at all is focussed upon the retina with an extreme of absolute sharpness, and the involuntary motions of the eyeball are so quick and finely adjusted that any object a little off the centre of sharpest definition, or, in other words, those to which the attention is not directed with full force, are seen just as sharp, owing to the almost lightning-rapidity with which the eye follows the bent of the attention. We may thus safely say that from the theoretical point of view all portions of the photographic landscape ought to be equally sharp, inasmuch as the original in nature is seen by the eye with uniform definition and distinctness. A little practical experience with the camera, however, soon teaches us that absolute optical sharpness is never attainable, and that within certain limits our attempts to approach it are accompanied with the loss of many good qualities in the picture." Articles: "Mechanical Means for Obtaining Increased Brilliancy of Image," "The Search Power of the Camera," "A Remarkable Photographic Robbery," "Palladium Toning," etc.

The *Journal of the Society of Arts* contains a paper read before the Society on the 30th ult., by Mr. T. R. Dallmeyer, on "Photographic Lenses." In the discussion which followed, Mr. Beck said, "With regard to the new glasses from Jena, he might mention some of the difficulties that occurred in using them. Their great feature was that certain of them had very high refraction to very low dispersion, and, therefore, a pair of cemented lenses could be obtained which would more nearly approach to a concentric lens, or would more nearly refract the oblique pencil in the same manner as the central ones. He believed a patent had been taken out for such a lens, but whether it would hold good was another question, because these glasses could only be made achromatic by using them in the patented manner. The great difficulty at present was that, with the glasses as now made, the lenses had to be made so nearly of the same focus that there was great difficulty in making them commercially, and the glasses most useful for this particular purpose would not stand the action of the air. At the same time, an enormous field had been opened up by the introduction of these glasses, and the calculations were extremely laborious. There were as many as 1,900 different kinds, all of which had to be thoroughly worked out before it could be said that no further improvements could be made. Slight improvements had been made in photographic lenses since their introduction, but whether the principle of curing astigmatism could be carried to as great an extent as some were sanguine enough to hope, would depend very largely on whether the manufacturers could carry their experiments a little further, and produce glass rather more extreme still."

The *Practical Photographer* contains articles on "Photography as a Business," "Celluloid and other Films," "The Electric Tachyscope," "A Photographic Survey," "A German Studio," etc.; and also process reproductions of "Before the Bath" and "After the Bath," by Mr. Bhedwar, of Bombay, who exhibited two enlargements of them on opal at the Crystal Palace.

The *Photographer* contains articles on "Dry-Plate Photography," "Out of the Past," "The Practical Printer," etc.

The *Photographic Art Journal* says, "None but those who have tried know the delightful comfort and ease with which development and various dark-room operations may be performed when the lamp is screened with 'canary medium,' under which name the yellow or orange bookbinder's cloth is sold by all dealers. Abolish the red glass and substitute a couple of thicknesses of yellow cloth stretched on a frame, and another frame of similar cloth of a red colour; with this we shall have an absolutely safe light for even the most prolonged development, and for all ordinary purposes the red cloth may be omitted. The negative may be watched without any straining to the eyes, and the progress of development be watched to a nicety. Some lanterns there are in the market which are provided with the desirable canary cloth, but the wonder is that the old-fashioned ruby glass has not been entirely discarded, as it deserves to be, except, indeed, by the users of Isochromatic plates." Articles: "Photographic Figures in Motion," "Three Important Pictures," "The

Choice of a Camera," "The Authority of Painters," "The Art of Drawing and Photography," "Aluminium for Photographers," etc.

Lippincott's for May contains a story, "A Sappho of Green Springs," by Bret Harte, which is of considerable interest, and rather different to the ordinary run of short novels. "Karma" is a curious psychological study, and there is a short story by F. M. Livingston. The other articles are up to the mark.

The *Scientific American* (New York) says that at a recent meeting of the Washington Chemical Society, Dr. T. Taylor, of the U.S. Department of Agriculture, exhibited a new flash light. It consists mainly of charcoal, from the silky down of the milk weed, which is free from ash. A few grains of this new composition placed on paper, and lighted with a quick match, produced a prompt and blinding flash, and will not even scorch the paper. Dr. Taylor says the powder will not explode, either by concussion or friction.

The *Deutsche Photographen Zeitung* (Vienna) contains a fine process reproduction of a genre picture, by G. Brokesch, of Leipsig, called "The Pilgrim."

The *Naturalist's Record* contains articles on "North American Birds, Nests, and Eggs," "Falmouth" (illustrated), "Some Notes on Migration," "Photography," "The Stonyhurst Observatory," etc.

The *Camera* writes on "The Photographic Section of the London Chamber of Commerce," "Lantern Slides," "Photographic Appliances," "Some Educational Aspects of Photography," "Aristotype Paper," "The Optical Lantern," etc.

Science Notes.

THE author (W. M. Rossetti) of an article on "Portraits of Robert Browning," in the *Magazine of Art* for May, writes, "I come next to the photograph by Mrs. Cameron, executed (as I infer by internal evidence) towards 1870. His hair, one sees, was still plenteous and picturesque in growth. The face here looks somewhat broader than in most of the portraits—it assimilates in this respect to the painting by Gordigiani. The features generally tell out to advantage; but the mouth—the little one sees of it amid moustaches and beard—notifies nothing particular in the way of character. As the eyes are well exhibited, I may take the present occasion for observing that our poet had this peculiarity in vision—that with one eye he was long-sighted, and with the other short-sighted. He mentioned the fact to me himself; and I have in some few instances seen him use one eye without the concurrence (which would, in fact, have been the counteraction) of the other, for the purpose of inspecting some particular object at a given distance."

Another photograph of the great poet, taken in 1887, "shows Browning and Milsand (a French friend) standing before an oil picture set on an easel; the former leans his left hand on the shoulder of the latter. . . . The face is serious and observant in profile, the forehead coming noticeably tall; the attitude, though aiming at ease, betrays that consciousness of posing for a photograph which it is so difficult to avoid when sitters are grouped."

To a photographer, certainly the most interesting parts of Mr. Lewis Hind's article on "Painters' Studios," in this month's *Art Journal*, are the admirable reproductions of Mr. R. W. Robinson's photographs. Mr. G. F. Watts is shown in his studio, hard at work at a gigantic horse; the other portraits—of Briton Riviere, J. E. Hodgson, and Frank Dicksee—are capital specimens of "home portraiture." The article has evidently been written to the photographers.

In the prospectus of the Liverpool, 1891, Exhibition, we note that the three classes for hand-camera work are confined to "5 by 4 in. and under;" and the instantaneous class is restricted to "half-plate and under." But why these restrictions? The larger the size of this class of picture, the greater the difficulty. If the restriction had been to "direct work only," it would have been comprehensible; but we don't see why the man who chooses to face and to overcome the immense difficulties of instantaneous work on, say, whole-plates, is to be debarred from competition.

In the Society Competition at the same Exhibition, each Society is limited to twenty pictures (too small a number—forty

would have been better), but nothing is said as to how many of these are to be the work of one man. Thus a Society may be represented by two or three of its crack workers, and quite a false impression of the *average work* of its members may be given. It would have been better to have required each picture to have been the work of a different member.

The practice of our best workers has, of late years, been steadily in the direction of the use of large stops; with a proportionate reduction in the times of exposure, of course. We find that for quarter-plate work a stop of $f/11$; for half-plates, $f/16$; and for whole-plates, $f/22$, are the most desirable. These give breadth and atmosphere combined with sufficient detail. On general landscape subjects in fine weather, and with the "extra rapid" plates of most makers, we find that exposures of one-twelfth, one-sixth, and one-quarter of a second respectively, give well-exposed pictures during the summer months.

We note in the correspondence columns last week that a "Silver Medallist" makes the identical proposition to the Ilford Company, *re* their proposed £100 Scholarship, that we made some weeks back in "Science Notes." It is surprising that so few photographers know of the existence of the annual examination in photography held by Capt. Abney for the City and Guilds Institute. Medals are given, and one would think that the "pot-hunters"—whose work we see at every exhibition—would eagerly avail themselves of this opportunity of testing their knowledge. But they fight very shy of it.

Notes from the Liverpool Centre.

(By our District Editor.)

THE spell of fine weather has been fully utilised, North, by photographers. I hear of several excursion parties in connection with societies in this centre, which were highly successful both in regard to numbers and studies. Last Saturday over thirty members of the Liverpool Association drove to Burton from Birkenhead, between twenty and thirty miles of the most picturesque part of Cheshire being covered. The route lay through Prenton, Storeton, Brimstage, Barnston, etc., returning through Neston and Thornton Hough. The round journey occupied five and a-half hours; between 160 and 170 exposures were made. The results all round have proved eminently satisfactory. It is worth while emphasising the fact that the usual "excursioning" by train was departed from, the party driving in two waggons, the larger of which was drawn by four spanking grey horses. Needless to say that the spin through the country not only added to the enjoyment of the "out," but was of great advantage to those operators who had heavy apparatus. The Vice-President of the Association traversed the ground the day before the excursion, and selected the choice bits of country. Mr. J. L. Mackrell secured a capital plate of the "oldest inhabitant" of Burton, a lady whose patriarchal associations with the village has brought her into prominence as an artists' model.

The fortnightly practical demonstration for new members and beginners in photography was held on Wednesday, the 30th ult. In the unavoidable absence of Mr. J. Macdonald Bell, who was to have demonstrated with "Gelatin-Chloride of Silver Emulsion Paper, Obernetter and Aristotype," the Hon. Secretary, Mr. E. M. Tunstall, filled his place at very short notice, he being a worker of these papers. Mr. Tunstall began by defending the paper from the ridicule with which some of the platinotype workers regard it by comparing it to sugar-plum-box covering. He stated the paper was valuable on account of the beautiful prints so full of detail that can be secured with it, also that by its aid many a valuable glass negative lost or accidentally destroyed could be reproduced in the following manner: by, immediately the said negative is developed and ready, making a rough print with the paper, toning, fixing, and drying it, and putting it away in a portfolio for future use if necessary. In the event of the negative being broken, scratched, or spoiled, the print could then be damped, squeezed on glass, a high gloss obtained, then fixed up on a board and copied from with a camera, and an enlargement made from the negative to the size required. A number of valuable hints and suggestions were made by the demonstrator, acquired in the course of his experience in the working of Obernetter paper. After several prints from whole-plate negatives had been toned and fixed, the process of obtaining the high gloss was gone through, and some prints

which had been previously dried on plate glass and backed with stout paper were successfully stripped from the glass and handed round. A number of very fine prints, mounted in frames, were exhibited, the work of Mr. J. L. Mackrell, an experienced worker of this paper, and one of the first to introduce it into Liverpool.

The Formby Camera Club.—Mr. S. R. Hunt and Mr. R. E. Maclean have been unanimously re-elected Secretary and President respectively. The membership of this society, as I pointed out a week or two ago, is small, but as photography seems rapidly coming to the front in the neighbourhood, recruits are expected. An outdoor afternoon has been arranged for Saturday, 10th inst., the venue being Eastham and Rahmery. This excursion will be the first of a series for the summer months. Mr. Hunt and Mr. Maclean are very energetic, and will no doubt pull the Formby Camera Club together. Both are proficient photographers.

The Birkenhead Association.—While the AMATEUR PHOTOGRAPHER is going through the press the members are busy with their ordinary meeting. Two papers, "Daylight and its Variations," by Mr. Henry E. Burn, and "The Most Effective Means of Preventing Light getting to the Sensitive Plate whilst it is in Course of Development," by Mr. J. A. Forrest, are to be read. Mr. Wm. Faltin will exhibit Anschütz's patent tripod for hand-cameras. The details of the annual outdoor competition, which takes place on the 31st of May, are announced. A silver medal is to be given for the best set of six pictures, irrespective of size.

The Wallasey Photographic Association holds its general meeting to-night (Wednesday), the business including demonstrations on "Bromide Paper," by Mr. James Gill, and on "Fitch's Films," by Mr. H. B. Sharp. The second outdoor meeting of the society this season will be held next Saturday at Eastham, visiting the Manchester Ship Canal Works, and working from this point towards Ellesmere Port. Thus the Wallasey operators are likely to meet their brethren from Formby, both parties being on the same kind of "jaunt" at the same time.

The Walton Society is going fairly strong and well. Since last March, the beginning of the Society's year, several new members have been enrolled, and thus two or three enforced resignations have been more than covered. On Wednesday the second meeting of the present session was held, the proceedings being largely devoted to experiments in photo-zincography. Mr. F. Vaughan again officiated. In Mr. Henry E. Burn, President, and Mr. J. Kennedy, Hon. Secretary, the members of the Walton Society have two able gentlemen, both practical photographers, much given to the art-science. At Wednesday's meeting a plan of campaign for the summer was drawn up. The first outdoor meeting for the year will be held probably at Whitsuntide.

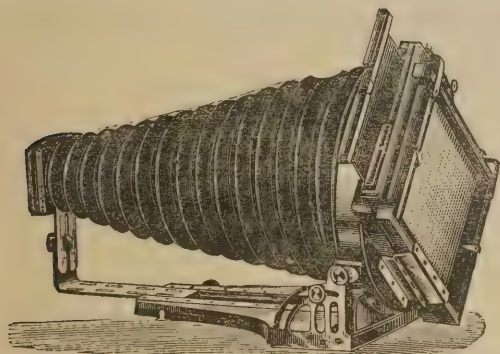
As I have had so much to say about outdoor meetings this week, and a great part of the work of many societies is in this direction during the warm months, it may not be inappropriate to refer briefly to a discussion bearing on the advantages and disadvantages of half-day excursions for photographic purposes. Two authorities here hold contrary views in the matter. One is of opinion that such outings are too scratchy and hurried to be of advantage to the true artist, who must have leisure to cast about for the best spots and the best effects. Skimming over country is apt to make operators, particularly the young and inexperienced, slovenly, careless, and indifferent. The other contends that half-day excursions are a good experience. Operators are not likely to be so easily influenced on the wrong side. They are not compelled to take "studies," and common sense is a sufficient safeguard against "scamping" merely to get a picture. Naturally, in this, as in all things, there are two sides to the question.

The Chester Convention continues to attract great attention. The preparations are on an extensive scale, but everything will be in readiness by June.

"ABC OF PHOTOGRAPHY."—The London Stereoscopic Company have issued the 23rd edition of their most useful manual. It is arranged with much judgment, and illustrated throughout. We have no hesitation in saying that both for the beginner and advanced worker it will be found most useful for reference. It is impossible to give details of contents, but every section of the photographic art is fully described and illustrated. Many useful hints are given as to selection of apparatus, material, etc. The book contains nearly 200 pages, and is admirably got up.

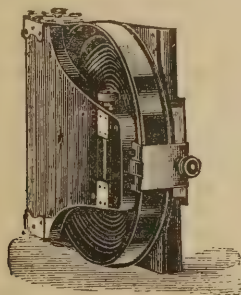
Apparatus.

Messrs. PEARSON AND DENHAM, of Leeds, have given us the opportunity of examining one of their new "Circumbra" cameras, which, as will be seen by the annexed illustration, is constructed on an entirely novel plan. The bellows are circular, the join being strongly sewn, and they are securely fastened to the back and front without the use of glue. The combination of metal and wood in the camera is said to make it entirely unaffected by climate, but, unfortunately, that combination makes it rather heavier than we should desire a camera to be which we had to carry far. The back revolves in the circle at the end of the



OPEN.

bellows, and can therefore be used in any position the worker may desire. Another peculiarity about the instrument we are describing is that the dark-slide, instead of sliding into grooves, as is generally the case, drops into the place occupied by the focussing screen, which then closes on the slide and holds it in position; it is evident that there can be no sticking of the double-back, or refusal on its part to slide into position. The extension is $17\frac{1}{2}$ ins., which is at least $1\frac{1}{2}$ in. longer than is usual, and will



CLOSED.

enable the back half of a rapid rectilinear to be used. A small mahogany front to carry the lens slides on to the metal front, so that the removal of the lens for closing the camera is performed in an instant. The price of the half-plate camera, with three dark-slides, which have a most ingenious fastening for the shutter, is £7 10s.

Mr. W. C. HUGHES, of Kingsland, has shown us a specimen of his "Bijou" enlarging lantern, which is one of the best we have seen. The lantern is fitted with a rectangular condenser, $6\frac{1}{2}$ by $4\frac{1}{2}$, and so will take a full half-plate negative, and a carrier is provided for quarter-plate negatives also. There is a 4-wick Pamphrengos lamp, which gives a splendidly clear and bright light. A good front lens is provided, and there are all the necessary movements for accurate focussing. The price is £6 10s.

Messrs. E. and T. UNDERWOOD have brought out a new time and instantaneous shutter, which is an improvement on the Kershaw, though it has the same kind of revolving curtain. It is called the "Instantolux." One of the improvements is that the actuating spring cannot be over-wound and broken. The change from instantaneous to time is made instantly by the simple turning of a piece of wire bent to an angle. A pressure on the rubber ball being given, the shutter opens and remains

open, whether the rubber ball be pressed or loosed, and is only closed by another pressure of the rubber ball being given. The usual action is that the shutter opens on the ball being pressed, and closes on its being loosed again, any leakages or forgetfulness resulting in a premature ending of the exposure. For instantaneous purposes there is a scale and pointer, which enables exposures to be given ranging from the tenth to the seventieth of a second. The price of the shutter to fit a $1\frac{1}{4}$ in. hood is 16s.

Messrs. HOCKIN, WILSON, and Co.'s "Dot" hand-camera is a compact apparatus carrying twelve plates, $3\frac{1}{4}$ by $2\frac{3}{4}$, and has a changing-bag arrangement, a lever raising the exposed plate so that it can be grasped by the worker. The shutter is a most ingenious one, and can be used for either time or instantaneous exposures. The price is 30s.

Messrs. HOCKIN, WILSON, and Co. have also shown us one of their American pattern detective cameras, which is for use with Eastman rollers. It is larger than the "Dot," and can, if desired, be used on a tripod. It is in a wood case with straps for slinging over the shoulder, and a handle for carrying by hand. The lens is a fairly good one, and the shutter can be used for either time or instantaneous exposures. The price is £2 10s.

Mr. W. TYLAR, whose name is so well known in connection with the introduction of many ingenious pieces of apparatus useful to the photographer, has sent us a specimen of his new focussing chamber, the object of which is to do away with the necessity for using a cloth. The chamber is attached to the frame of the focussing screen by four small screws in such a way that it can be removed without taking out the screws. It is made of stout millboard covered with leather, and will fold quite flat so that it will go into a box less than half an inch deep. It is likely to be largely used by amateurs. The price of a half-



plate chamber is 5s. 6d., and of a quarter-plate 3s. 6d. We have also received from Messrs. Mawson and Swan, Mr. Tylar's London agents, a specimen of his "Lanternscope," an ingenious apparatus to enable lantern-slides to be viewed and judged without the use of the lantern. It will probably be found very useful for the purposes mentioned.

Messrs. GEORGE HOUGHTON and SON have sent us some specimen prints on the Friese-Greene patent opal cards. They are coated with emulsion, and treated in the same way as bromide paper. The effects produced are good, but there is not, of course, that semi-transparency which is one of the chief attractions of opals.

Mr. JONATHAN FALLOWFIELD, of Lower Marsh, Lambeth, has kindly sent us one of his improved "Facile" hand-cameras. Our opinion of the camera is well known by many hundreds of our subscribers, for there is not a week in the year but we are asked as to its merits. We have no hesitation in saying that the

"Facile" is the simplest and best constructed hand-camera in the market.

We give four illustrations. Fig. 1, a section showing the chambers of unexposed and exposed plates, by which the principle is clearly shown. It will be noticed that the plate, when in position for exposure, is in exact register, and, until the milled

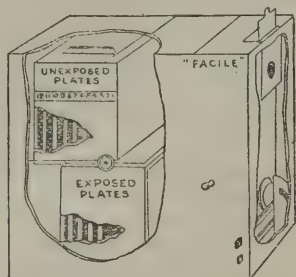


FIG. 1.

head or rack and pinion has been turned, no movement of the plate can possibly take place. Fig. 2 shows the operation of filling with new plates, Fig. 3 taking out exposed plates, and Fig. 4 the front of camera with finder, and showing the action of the shutter.

Mr. Fallowfield has now placed the finder immediately over

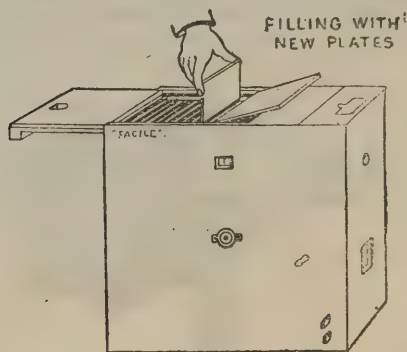


FIG. 2.

the lens; the eye in looking into the finder in this position *feels* that the lens acts in unison with it; it is hardly necessary to say that such is the case. The shutter is simplicity itself, but we might mention that, in addition to the shutter, there is a light screen at the back of the lens most useful in time exposures. The shutter has only to be pressed quickly or slowly in order to

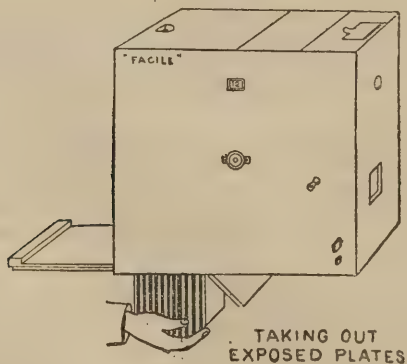


FIG. 3.

regulate speed; the segment of metal is so cut and hung as to always have a tendency to fall over the lens, and acts admirably.

The lens, when a rapid rectilinear, is fitted with rotating stops, but is of fixed focus, and gives the most excellent definition. We have before us specimen work of very varied character; animals,

street scenes, groups, landscape with clouds, landscape with rushing water, and landscape with figure. In all of these the lens has covered the plate, and every detail is in focus.

Mr. Fallowfield has, after much difficulty, made a new locking sheath, which reduces the labour of filling them with plates to a minimum. The sides of the sheath have no turned-over edge, there being only a turned edge at the bottom, and two ingeniously made clips which catch the plate at the top.

The camera itself is a beautiful piece of cabinet work. This season's camera is somewhat heavier than last year's, but the small addition in weight is fully compensated by the increase in strength and the beautiful appearance. The grooves which contain the plates in each chamber are cut out of solid pear wood, which is very hard, and they are worked to mathematical correctness.

We have said sufficient to endorse our very frequent advice to

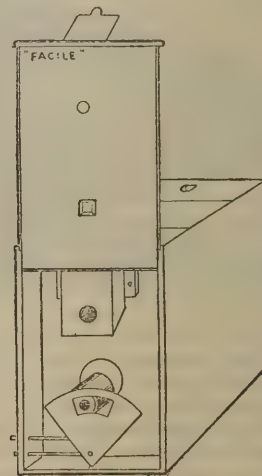


FIG. 4.

purchase this camera. Although we have not worked with the cheaper lens, a single aplanatic landscape lens. We have seen very good work turned out by it. Mr. Fallowfield has very kindly sent a Facile hand-camera to the office, and we shall be pleased to allow our subscribers who cannot spare the time to go to Lambeth, to inspect it upon our usual visitors' days.

It is an open secret that very shortly Mr. Fallowfield will open extensive premises in Charing Cross Road, and will then have a large stock of goods specially adapted for the use of amateur photographers.

LEITH PHOT. ASSOC.—The ordinary monthly meeting of this Association was held on the 27th April, the Vice-President (Mr. T. W. Dewar) in the chair. Mr. A. Pitkethly read a paper on "Photographic Apparatus," in which he treated of the camera, lens, and tripod, and pointed out the different and essential features to be noted in the choosing of a photographic outfit. The Secretary exhibited and explained Turnbull's cyclist's detective camera, walking-stick tripod, and film slides and carriers. A copy of "Pictures of East Anglian Life," presented to the Association by the author, Dr. P. H. Emerson, was examined with much interest by the members present.

THE FRENCH EXHIBITION, which is to be opened at Earl's Court this month, will have many attractions, and include a large number of the exhibits at the Paris Exhibition of 1889. The Fine Arts Section will be exceptionally excellent. Among the contributors will be many of the best artists in France, including such names as Gérôme, Bartholi, Barrias, Constant, Armand-Dumaresq, Aublet, Coutan, Yon, etc. etc. Several rooms in the exhibition will be reserved for paintings from this year's two Paris Salons. Amongst other attractions may be mentioned a Norman cider pavilion; the switchback railway, or "Montagnes Russes;" a photographer's pavilion; a shooting gallery; a Parisian café-chantant; a Moorish, Tunisian, and Algerian café-chantant; a diorama of the Paris Exhibition of 1889 and the Eiffel Tower; a French conservatory of orchids; a promenade concert hall; the Edison phonograph, etc., etc.

Register of Dark-Rooms, 1890.

THE following "Dark-Rooms" have been placed at our disposal.

We class them in four divisions, *i.e.*, *a* amateur, *d* dealer or professional, *h* hotels, and *s* photographic societies.

In our letter of introduction full particulars are given as to owner, address, charges (if any); plates, chemicals, etc., kept by dealers; terms for temporary membership of societies; hotels; distance from station, etc., etc.

Every application for letter of introduction must be accompanied by SIX PENNY STAMPS. The owner of "Dark-Room" will be advised by same post as the applicant.

<i>d</i> Aberystwith	<i>d</i> Crewkerne	<i>d</i> Hull
<i>d</i> Amble	<i>d</i> Croydon	<i>d</i> Ilfracombe
<i>d</i> Andover	<i>d</i> Dalton-in-Furness	<i>d</i> Ipswich
<i>a</i> Aylesbury	<i>d</i> Darlington	<i>d</i> Jarrow
<i>d</i> Barmouth	<i>h</i> Dartmouth	<i>d</i> Jersey
<i>d</i> Bath	<i>d</i> Derby	<i>d</i> Keighley
<i>h</i> Beaconsfield	<i>a</i> Devizes	<i>s</i> Keighley
<i>a</i> Bedford	<i>a</i> Doncaster	<i>s</i> Kendal
<i>d</i> Belfast	<i>d</i> Douglas, Isle of Man	<i>a</i> Kimberley
<i>d</i> Bergen, Norway	<i>d</i> Douglas, Isle of Man	<i>d</i> King's Lynn
<i>d</i> Berlin, Germany	<i>d</i> Dublin	<i>a</i> Kingstown, Dublin
<i>a</i> Birmingham	<i>d</i> Dublin	<i>d</i> Lancaster
<i>d</i> Birmingham	<i>d</i> Dublin	<i>d</i> Lancaster
<i>s</i> Birmingham	<i>h</i> Dublin	<i>d</i> Lancaster
<i>h</i> Bodiam	<i>h</i> Dunblane, N.B.	<i>d</i> Larne
<i>d</i> Bodmin	<i>d</i> Dundee	<i>d</i> Leamington
<i>d</i> Bournemouth	<i>s</i> Dundee	<i>h</i> Ledbury
<i>d</i> Bournemouth	<i>a</i> Dungarvan	<i>d</i> Leeds
<i>d</i> Bradford	<i>a</i> Duns	<i>d</i> Leeds
<i>d</i> Bradford	<i>d</i> Durham	<i>a</i> Leeds
<i>d</i> Bramley, near Leeds	<i>h</i> Ebbw Vale	<i>d</i> Leicester
<i>d</i> Brechin, N.B.	<i>d</i> Edinburgh	<i>a</i> Leicester
<i>h</i> Brechin, N.B.	<i>d</i> Edinburgh	<i>a</i> Leicester
<i>d</i> Bridlington Quay	<i>d</i> Edinburgh	<i>a</i> Lenzie, N.B.
<i>d</i> Bridlington Quay	<i>d</i> Edinburgh	<i>d</i> Lincoln
<i>h</i> Brigg	<i>s</i> Egremont	<i>s</i> Liverpool
<i>d</i> Brighton, Hove	<i>a</i> Enfield Town	<i>d</i> Liverpool
<i>h</i> Brighton	<i>a</i> Evesham	<i>h</i> Llanidloes
<i>d</i> Brighton	<i>d</i> Evesham	<i>a</i> London, Chelsea
<i>d</i> Bristol	<i>d</i> Exeter	<i>d</i> London, E.C.
<i>d</i> Bristol	<i>s</i> Falkirk	<i>d</i> London, E.C.
<i>h</i> Broadway, Worcester	<i>d</i> Felixstowe	<i>d</i> London, E.C.
<i>d</i> Bromley	<i>h</i> Finchley	<i>d</i> London, Highgate
<i>s</i> Burnley	<i>h</i> Fochabers, N.B.	<i>d</i> London, New Cross
<i>a</i> Cadiz, Spain	<i>d</i> Folkestone	<i>d</i> London, S.E.
<i>h</i> Callender, N.B.	<i>a</i> Frodsham	<i>d</i> London, S.E.
<i>d</i> Cambridge	<i>a</i> Galashiels, N.B.	<i>a</i> London, W.C.
<i>h</i> Cambridge	<i>a</i> Galston, N.B.	<i>a</i> Long Eaton
<i>h</i> Capel-Curig, N.W.	<i>d</i> Glasgow	<i>h</i> Long Melford
<i>a</i> Chalfont St. Peter	<i>d</i> Glasgow	<i>a</i> Louth
<i>d</i> Cheltenham	<i>d</i> Gloucester	<i>a</i> Louth
<i>d</i> Chepstow	<i>a</i> Goring	<i>a</i> Ludlow
<i>d</i> Chester	<i>d</i> Great Yarmouth	<i>d</i> Lynn
<i>d</i> Chester	<i>a</i> Halifax	<i>a</i> Lythe, Whitby
<i>d</i> Chesterfield	<i>d</i> Handsworth	<i>h</i> Macroom, N.B.
<i>a</i> Chipping Norton	<i>a</i> Hanley	<i>a</i> Madeley, Salop
<i>a</i> Cinderford	<i>d</i> Hanley	<i>d</i> Maidenhead
<i>d</i> Cirencester	<i>d</i> Harrogate	<i>d</i> Manchester
<i>s</i> Cleckheaton	<i>d</i> Hastings	<i>h</i> Mallow
<i>d</i> Clevedon	<i>h</i> Hastings	<i>d</i> Malvern
<i>d</i> Clifton	<i>s</i> Havant	<i>d</i> Mansfield
<i>a</i> Clitheroe	<i>d</i> Hereford	<i>d</i> Margate
<i>d</i> Colchester	<i>d</i> Hexham	<i>a</i> Mayence
<i>d</i> Colchester	<i>d</i> Huddersfield	<i>d</i> Merton
<i>a</i> Coniston	<i>a</i> Hull	<i>d</i> Minehead
<i>d</i> Crewe	<i>d</i> Hull	<i>h</i> Monmouth
		<i>d</i> Montrose, N.B.

<i>d</i> Mountsorrel	<i>d</i> St Bees	<i>d</i> Taunton
<i>d</i> Newark	<i>a</i> St. Helens	<i>a</i> Tavistock
<i>h</i> Newbury	<i>d</i> St. Heliers	<i>a</i> Tenby
<i>d</i> Newcastle-on-Tyne	<i>d</i> St. Leonards	<i>h</i> Tintern Abbey
<i>d</i> Newcastle-on-Tyne	<i>h</i> St. Neots	<i>d</i> Torquay
<i>d</i> Newport (Mon.)	<i>d</i> Sandgate	<i>d</i> Torquay
<i>a</i> Niton, Isle of Wight	<i>d</i> Sandown, Isle of Wight	<i>d</i> Torquay
<i>d</i> Norwich	<i>d</i> Scarborough	<i>h</i> Tring
<i>d</i> Nottingham	<i>d</i> Scarborough	<i>d</i> Tunbridge Wells
<i>d</i> Nottingham	<i>a</i> Shaftesbury	<i>s</i> Uttoxeter
<i>d</i> Northallerton	<i>d</i> Shanklin, Isle of Wight	<i>a</i> Ventnor, Isle of Wight
<i>a</i> Oxford	<i>a</i> Sheffield	<i>a</i> Vienna
<i>h</i> Paignton	<i>d</i> Sheffield	<i>h</i> Wadebridge
<i>h</i> Paisley, N.B.	<i>h</i> Shepton Mallet	<i>h</i> Warwick
<i>d</i> Penzance	<i>d</i> Shrewsbury	<i>h</i> Waterford
<i>d</i> Pershore	<i>h</i> Southampton	<i>d</i> Waterford
<i>a</i> Perth	<i>h</i> Southend-on-Sea	<i>a</i> Wellington, Salop
<i>h</i> Pickering	<i>a</i> Southport	<i>d</i> West Hartlepool
<i>h</i> Port Erin, Isle of Man	<i>d</i> Southsea	<i>d</i> Weymouth
<i>d</i> Reading	<i>s</i> Southsea	<i>d</i> Whitby
<i>h</i> Redcar	<i>a</i> Stamford	<i>d</i> Wimbeldon
<i>h</i> Redditch	<i>a</i> Steyning	<i>d</i> Windsor and Eton
<i>d</i> Richmond, Surrey	<i>d</i> Stockton-on-Tees	<i>d</i> Wisbech
<i>a</i> Ringwood, Hants	<i>a</i> Stoney Stratford	<i>a</i> Wolverhampton
<i>a</i> Romford	<i>a</i> Stourbridge	<i>d</i> Worcester
<i>d</i> Royston	<i>d</i> Stourbridge	<i>h</i> Worthing
<i>d</i> Ryde, Isle of Wight	<i>d</i> Stourbridge-on-Avon	<i>d</i> Worthing
<i>h</i> Ryde	<i>h</i> Stratford-on-Avon	<i>d</i> Yeovil
<i>h</i> St. Asaph	<i>d</i> Stroud	<i>s</i> York
	<i>h</i> Sudbury, Suffolk	<i>d</i> York
	<i>d</i> Sunderland	<i>a</i> York
	<i>d</i> Swindon	<i>d</i> Youghal

A Model Dry-Plate Works.

In whatever country photography is practised, the "Paget" plate is used and spoken highly of. Last year the Paget Prize Plate Company had the misfortune to have their premises burnt down at Ealing. Like the thorough men of business they are, they at once ceased manufacture, and decided to build a works where they could turn out sufficient plates to meet the enormous demand for "Paget" plates at home and abroad. Rather than disappoint customers, they took no orders, and turned the whole of their attention to the planning and erection of a model factory.

With considerable judgment, they selected Watford as their *pied à terre*, and it was our great good fortune last week to have an opportunity of inspecting the works. They stand upon a large plot, and although at present of an extensive character there remains ample space for future extensions. The works stand well back from the road, and as a consequence are free from the inroads of the dry-plate maker's pest, *dust*. The surrounding country is open and but little built upon, so that in respect of situation the works are admirably placed.

The works have been engineered by Mr. W. J. Wilson and Mr. Whitfield, and, in ingenious application of mechanics to the preparation and manufacture of dry plates, it would be quite impossible to surpass the work done by these two gentlemen. The laboratory is well planned, and in it emulsions and plates are tested, and the many hundred things done necessary in the daily routine of a plate-maker. From this room we pass into a larger room, where the emulsion is prepared and cooked. The cooking is all done in vessels made of the best Minton china, pure white; these vessels are placed in a chamber filled with water, which is brought up to boiling point in eight minutes by steam. The greatest care is of course taken in the making up of the emulsion which has given the "Paget" plate so high a reputation.

In all the operations connected with the making of the emulsion chemically pure water is used. For this purpose many ingenious contrivances are to be found. In the emulsion room distilled water is laid on, and a special steam coil for heating water, in order to be able almost at a moment's notice to have boiling water. It is needless to say that in every particular the works are scrupulously clean.

All water used is softened by Maignen's process, and a very

economical arrangement of distilling water is adopted, the waste steam from the boiler being utilised for the purpose; not a drop of water or a pound of steam is wasted. Whilst speaking of the water supply we may add that soda water, or rather water with soda in solution, is extensively used in cleaning the glass, consequently there is a cistern always full of soda water.

A very ingenious air closet is also arranged, through which hot or cold air can be drawn. This is driven by a Blackman's fan into the drying rooms at such temperature as the season of the year requires.

As in most well regulated dry-plate works, the actual manufacture is carried on upon a general system. The glass is received, and is at once handled by the washers and cleaners, usually an army of girls officered by one or two men, but at the Paget works they have only a few men and boys, and mechanical contrivances do the rest.

We will endeavour to describe the washer and cleaner. The glass is laid upon a bed and caught by two india-rubber rollers, which propel it between two flat brushes working backwards and forwards; two jets of the soda water impinge on the plate, and it passes on through several other rollers, brushes, and jets, and between two squeegees which take off all the soda water; it then goes through more rollers and jets of clean water and on to a bed at the end of the machine, and is rinsed with distilled water put on a rack and placed in a drying closet. To give some idea of the work that may be got through by the machine, we understand that it is possible to pass a hundred dozen per hour through it with an attendance of from six to eight men and boys.

From the drying closet the glass is taken into the coating room, and there coated by a Cadett's machine, a really beautiful piece of mechanism. The emulsion is brought up to a given temperature in a bath heated by steam; it is then fed into a trough made of pure silver, which is also kept at a given temperature by means of a jacketting filled with hot water. The quantity of emulsion allowed to flow out of this trough on to the plates is regulated by a series of beautifully constructed pumps, made also of silver, which can be geared to work quickly or slowly, any number being put into work according to the size of plate to be coated. The pumps lift the emulsion, and it flows over a silver roller, and just the quantity passes from that to the face of the plate.

The coating is most regular. The plates pass over several metal rollers, and are then passed on to a roller covered with linen which is kept constantly wet, by which means the back of the plate is cleaned. From this roller the plate travels upon endless cords to the end of the machine, where it is taken off, placed in racks, and passed into the drying chambers.

In the entering and leaving of all rooms in which plates in course of preparation are being made, most ingenious arrangements have been planned. It is impossible to go from one room to another with the least possibility of daylight entering.

The examining, cutting, and packing is done by girls, the immediate light being ruby, but a yellow light is arranged above the heads of the workers, and the room is really pleasant, although, of course, safely lighted.

We have said enough to show our readers that at Watford the Paget Prize Plate Company have an admirable works. We have no doubt that with the courtesy that the Company's Managers always show to their customers, they will be pleased to admit visitors upon application. It is, of course, impossible in the space at our disposal to give a full account of the many things to be seen and learnt, still we hope the account of our visit may be as interesting to our readers as it was pleasurable and profitable to us.

Societies' Meetings.

NOTE.—In this column the Editor can, of necessity, only give a brief summary of the proceedings. The PHOTOGRAPHIC SOCIETIES' REPORTER was established to report the transactions of Societies, and the Editor will be glad to receive reports for insertion as early as possible after the meetings have been held, and at the latest before the 24th of each month.

BEDFORD AND DISTRICT CAMERA CLUB.—An ordinary meeting was held on April 30th. An interesting paper was read by the President, Dr. A. H. Beaman, on the "Aptus Glass Etching Plates." The working of the process was fully and ably explained,

the specimen shown being much admired. A discussion followed in which several of the members took part, and the President was asked several questions. On Saturday last, the 3rd inst., an excursion was held to Amptill Park (Lady Amptill having kindly given her consent); good work was done.

BLACKBURN AND DISTRICT PHOT. SOC.—On the 2nd inst. Mr. Orrell showed a series of lantern slides of Australia, with a description of each. A specially fine lot was those of the zigzag railway, which dropped 1,400 ft. down a hill (by a circuitous route seven miles in length). During the evening a specimen of the new Kallitype process was handed round amongst the members.

BRISTOL AND WEST OF ENGLAND AM. PHOT. ASSOC.—The ordinary monthly meeting was held in the Queen's Hotel, Clifton, on Friday, the 11th ult., Mr. H. A. H. Daniel (President) in the chair. There was a moderate attendance of members. Mr. and Mrs. Charles Miller were proposed as members, balloted for, and declared unanimously elected. Mr. E. Brightman then read a paper on the "Carbon Printing Process." A vote of thanks was accorded to Mr. Brightman for his most lucid and interesting demonstrations of the carbon process, which awakened in those present a feeling of new interest in the subject, and surprise that so simple and advantageous a process should have received hitherto so little attention.

CAMBRIDGE (PROPOSED) AM. PHOT. SOC.—A meeting was held on Wednesday evening, April 30th, Mr. F. H. Sanderson in the chair. There was a good attendance. A provisional Committee was appointed to draw up rules, obtain suitable rooms if possible, and to report thereon at an adjourned meeting which was held on Wednesday, the 7th inst., at 8.30 p.m., to appoint officers.

CAMERA CLUB.—On Thursday, May 1st, Captain Abney read a paper on "Pinholes." Mr. T. R. Dallmeyer occupied the chair. Captain Abney, in his lecture, gave the formulæ for arriving at the best size of pinhole for any extension of camera, and explained how it was that by the diminution of the size of the pinhole diffraction phenomena became important, and caused greater blurring than with a larger aperture. Taking light from the most chemically-active part of the spectrum, about G, it was shown that for an extension of 10 inches an aperture of $\frac{1}{10}$ of an inch would give the least diffusion. Also it was further shown that near objects and far objects are differently sharp to a slight degree, according to the size of the hole used. Some actual examples of prints from negatives taken with pinholes of varying sizes were exhibited. That taken with the aperture indicated by theory was the least blurred, one taken with the smallest hole, $\frac{1}{1000}$ of an inch, showed very large amount of blurring. In conclusion, Captain Abney expressed his preference for sharp pictures and photographs, and pointed out that the amount of blurring allowable to give appearance of sharpness to the eye depended upon the distance from which the picture was viewed. In the animated discussion which followed, Messrs. Elder, Clark, Willis, Davison, Clift, Patterson, Rodgers, Wilson Noble, M.P., Humphery, Rev. F. C. Lambert, and the Chairman took part.

CARDIFF AM. PHOT. SOC.—The last meeting of the winter session took place at the Studio on the 30th ult., Mr. S. W. Allen in the chair. The summer excursions were duly arranged, and embrace sixteen fixtures, commencing from the 17th inst. It was decided to ask Mr. Welford to favour the Society with his lecture, "My Experience with a Detective," at an early date. The suggestions of the Camera Club *re* future exhibitions were considered and discussed, and the opinion was expressed that many of the ideas were not practicable. The Honorary Secretary was requested, in acknowledging receipt of the communication, to suggest that the Camera Club should themselves hold an exhibition on the lines indicated, and if the result is financially satisfactory it should be worth the careful consideration of kindred societies. The awards recently gained by Mr. W. H. Kitchin were passed round for inspection. The Belfast Camera Club medal was the twentieth award gained by Mr. Kitchin. Saturday, May 17th, excursion, Aber Valley, first excursion in connection with the County Survey.

CLEVELAND CAMERA CLUB.—At the last meeting of the Redcar and Coatham Photographic Association it was decided to change the name to the "Cleveland Camera Club," and to hold the meetings in Middlesbrough. By the kind permission of the Literary and Philosophical Society, the smoke-room of that in-

stitution has been secured as a meeting-place. A meeting will be held on the 12th inst., for the enrolment of members, etc. All interested in photography in Middlesbrough and district are invited to attend.

DOVER CAMERA CLUB.—On the 29th ult. a photographic demonstration was held by Mr. Smith, of the Eastman Company; Mr. M. Bradley in the chair. A general meeting was announced for Thursday evening, May 8th.

EAST DULWICH AND PECKHAM PHOT. SOC.—The usual meeting was held on the 2nd inst., the President in the chair. The Treasurer gave an account of a visit he recently paid to the Paget Plate Company works at Watford. He said the works were well arranged, and very suitable to the wants of the Company. The Secretary laid on the table Dr. Emerson's work, "Pictures of East Anglian Life," a copy of which the doctor had presented to the Society. The book was examined with much interest, and a cordial vote of thanks was passed to Dr. Emerson for his kindness. The subject of the evening's lecture was "The Optical Lantern, its Construction and Use," on which subject Mr. Banks read a paper. Having brought with him a fine specimen of a triple lantern that had just been made for him by Chatham Pexton, he was able to illustrate his remarks practically. At the close of the paper, the lantern was lighted, and a few slides put through. Seven members were proposed, and the meeting closed in the usual manner.

GLOUCESTERSHIRE PHOT. SOC.—The annual meeting was held on the 28th inst., the President, Mr. W. B. Wood, in the chair. The Honorary Secretary's report was adopted, showing an increase of sixteen members during the year. The President, Vice-President, Treasurer, and Committee of last year were re-elected. Mr. A. H. Clinch was elected Honorary Secretary. The retiring Secretary, Mr. F. H. Burr, and the Rev. Mowbray Trotter were added to the Committee. A hearty vote of thanks was passed to Dr. Emerson for his valuable and useful gift, "Pictures of East Anglian Life." The presentation print for 1890 was selected, the voting being in favour of a 15 by 12 platinum print of a view on the Lynn, by Mr. W. C. Beetham. A lantern outfit, consisting of a pair of mahogany lanterns, with cylinders, regulators, jets, etc., was on view, and it was decided to purchase same for the use of members. The triennial exhibition (open) will be held in October or November, and prospectuses in accord with recently expressed ideas will shortly be issued.

HOLBORN CAMERA CLUB.—The usual weekly meeting was held on Friday, May 2nd. There were twenty members present, under the Chairmanship of Mr. T. O. Dear. Miss L. Hare was elected a member. Mr. Bayston read a paper by Mr. Andrew Pringle, entitled "Points in Albumen Printing." After about half an hour's general conversation on photographic topics, the meeting was brought to a conclusion. This evening (Friday) the President, Mr. T. C. Hepworth, will give a lecture on lantern slides, illustrated by the optical lantern.

LEWISHAM HIGH ROAD CAMERA CLUB.—A meeting was held on the 2nd inst., Mr. Alfred H. Miles in the chair. Mr. R. W. James read a paper entitled "Cameras," illustrated by a large collection of apparatus. The lecture was listened to with interest, and the discussion which followed showed that the members appreciated the subject. Mr. Charles Darling, M.P., Q.C., and Mr. A. Thomas were nominated honorary members of the Club, besides which five members were elected. The next meeting (social) takes place on May 16th, when members will exhibit lantern slides, apparatus, etc.

NEWCASTLE AND NORTHERN COUNTIES PHOT. ASSOC.—At the Central Exchange Art Gallery on the 2nd inst., a lecture was given by Mr. J. P. Gibson, the subject being "Northumberland: its Antiquities and River Scenery." Mr. Gibson, who showed a splendid collection of over 150 lantern slides which he had taken from views, at the outset dealt with the pre-historic races who dwelt in Northumberland, and exhibited a slide illustrative of a hut circle. He proceeded to describe the customs of the people in the early ages, giving a pictorial reproduction of a human skull found in Tarsset Burn. Next he dealt with the period of the Roman occupation, which he followed with views of the present day of the camps of Cilurnum, Housesteads, and Birdoswald. The Saxon age then formed the subject of his lecture, and Mr. Gibson illustrated his discourse with photographs of crosses and other antiquities found in Hexham district. Mediæval antiquities were touched upon, typical castles being shown, such as

Seaton Delaval, Morpeth, Warkworth, Alnwick, Bamburgh, and Etal. Modern topics came next, and the lecturer working westward from Newcastle, found opportunity to afford views of the birthplace of George Stephenson at Wylam and Bewick at Cherry Burn. Bywell Church and Castle, Aydon Castle, and Dilston were also treated upon, a brief sketch of the Derwentwater family being heard with much interest. The scenery of the river Tyne and its tributaries was finally shown, beginning below Hexham, up the North Tyne to Bellingham, and on the shores of the South Tyne to Thirlwall Castle. There was a large audience, and the impression created by the lecturer and his admirable slides was favourable in the extreme. Mr. J. P. Gibson has consented to repeat the above lecture and lantern demonstration to-day (Friday).

ROSSENDALE PHOT. ASSOC.—The members of this Society on the 28th ult. held an exhibition of apparatus, followed by a discussion on the relative merits of the exhibits. Mr. Chadwick occupied the chair in the absence of the President. Dr. Emerson's gift to the Society of "Pictures of East Anglian Life" was on view, and contributed largely to the enjoyable evening, which closed with the usual votes of thanks. It was arranged to hold the first excursion on the 10th of May, when the Society leave Rawtenstall at 1:33 p.m. for Ramsbottom and Summerseat.

SHEFFIELD CAMERA CLUB.—The usual monthly meeting was held on the 25th of April, when a students' night was given. Members were invited to bring down objects of interest to be discussed by those present. A number of plates were developed by several of the members. Two new members were elected.

TUNBRIDGE WELLS AM. PHOT. ASSOC.—The ordinary monthly meeting was held on the 1st inst., the President, Mr. F. G. Smart, in the chair. Mr. Horace Booty and Mr. Lewis Luck were duly elected members. The Hon. Secretary read the correspondence, which included a communication from the Camera Club, as to rules and regulations of photographic exhibitions, but the feeling of the meeting was decidedly in favour of keeping to their own rules; a resolution being unanimously passed to that effect. Several members brought hand-cameras for inspection. Mr. Howard showed Fallowfield's "Facile," the results, being prints from negatives taken by himself, were very good. Mr. Cassingham showed an "Ideal," which was arranged to hold eighteen plates; this worked well. Mr. Cornell brought some lantern slides, the negatives of which had been taken by a "Key" camera, and which showed remarkable sharpness. Mr. Morgan then exhibited his new hand-camera, made by himself, one advantage being that it can be used also as an ordinary camera, the picture being focussed on to a screen at the back, which the peculiar arrangement of the chambers for storing the plates allows. It is very small, measuring 7 ins. high, 7 ins. long, and 4½ ins. wide, and holds twelve quarter-plates. The finder registering exactly with the plate enables the operator to see exactly what he will have on the negative. This attracted considerable attention. A copy of No. 2 of *Sun Artists*, which contained four of Mr. H. P. Robinson's noted pictures, namely, "Dawn and Sunset," "When the Day's Work is Done," "Carolling," and "A Merry Tale," reproduced by the Photogravure process, with a descriptive essay, belonging to the Association, was shown and much admired. One of Zaehndorf's self-binding mounts, and also some of Fitch's ivory films were brought by Mr. Cassingham. Mr. Howard gave members some samples of "Waterloo" plates for trial. The Hon. Secretary read a letter informing him he had been elected corresponding member of the Crawford Camera Club, of New Jersey, U.S.A. The meeting closed with a vote of thanks to the Chairman.

WEST LONDON PHOT. SOC.—On the 25th ult. Mr. Charles Bilton (President) in the chair, Mr. John A. Hodges, the Hon. Secretary, read a paper entitled "Some Practical Hints on the Choice of a Lens."* It was announced that summer excursions would take place on Saturdays, May 3rd, 17th, and 31st, and also on Saturday, June 28th; the next indoor meeting being fixed for July 25th. The annual smoking concert will be held at the Richmond Hotel, Shepherd's Bush Road, on Friday, May 9th, at 8 p.m. Members are entitled to bring one friend.

WOOLWICH AND DISTRICT PHOT. SOC.—A meeting was held on the 30th ult. Fourteen names were enrolled as forming this Society. The Rev. J. W. Horsley was elected President, Mr.

* See PHOTOGRAPHIC SOCIETIES' REPORTER, April 30th, 1890.

R. M. Gilbert Vice-President, Mr. Harris Treasurer; Messrs. Aspinall, Mittelhausen, and Kemp, Council, with power to add to their number. The next meeting will be held on Wednesday the 14th inst., at 8 p.m., to pass the rules and make arrangements for an outdoor meeting. Communications should be addressed to the Hon. Secretary, Mr. Wm. Bacon, 35, Whitworth Road, Shooter's Hill, S.E.

WORCESTER AM: PHOT: SOC.—A meeting of the society was held on the 22nd ult., Mr. Councillor Underwood in the chair. It was resolved to invite Mr. Greswolde Williams, of Henwick Grange, Worcester, to become the President of the society for the current year. Major Webb and Mr. Councillor Underwood were unanimously elected Vice-Presidents of the society. After the election of new members, the meeting proceeded to discuss the arrangement of the summer programme, and about fourteen gentlemen undertook to arrange excursion parties, of which they would act as the leaders. Reports of the different excursions

will be prepared for reading at the winter meetings of the society, and members were requested to make lantern slides of the plates exposed by them during the excursion. The Secretaries were requested to communicate with other photographic societies in the neighbourhood with a view to the arrangement of joint excursions. A proposal to make a photographic survey of the local and historical objects of interest in the city and neighbourhood, for preservation in the local museum, was discussed, and members were requested to supply the society with any of their prints that may be useful for this purpose. The promotion of a system of exchange of work among members met with much approval, and will doubtless be further considered at a future meeting of the society. After the ordinary business had been completed, the members inspected each other's work, apparatus, etc., of which there was an excellent exhibition, and a display of members' lantern slides on the screen by Mr. J. Cam brought a most enjoyable evening to a close.

To Correspondents.

THE insertion of **QUERIES** and **ANSWERS** is attended with much labour, and it is requested that the questions asked and the answers given shall be short and to the point. No charge is made.

All communications for the columns are to be addressed to **The Editor, "Amateur Photographer,"** 1, Creed Lane, Ludgate Hill, London, E.C.

RULES

1. Write clearly and distinctly on one side of the paper only.
2. Write each Query or answer on a separate sheet of paper.
3. Write the name and address legibly on the back of each communication, and sign all Queries and Answers with name or *nom de plume*.
4. All matters for these columns **MUST** be received by **TUESDAY MORNING'S POST**.
5. The Editors do not undertake to answer questions by post.
6. In answering Queries correspondents are requested to mention, in every instance, the number and full title of the query referred to.

QUERIES.

3776. **Demon**.—Will any amateur give me his practical opinion of the above camera?—**CURIUS**.

3777. **The Camunilux**.—Will somebody kindly tell me if the above is a really serviceable article?—**CURIUS**.

3778. **Dark-Room Gas Lamp**.—I want a really good one; must give plenty of light, and yet be perfectly safe for the most sensitive plates. Which is the best? Any information very welcome, as those I have tried have not been satisfactory.—**M. A. S.**

3779. **Labels**.—What is the best way to preserve photographic labels from the effects of chemicals, etc.?—**S. R.**

3780. **Weymouth**.—I intend to spend my holidays at this place in June, and shall be glad if someone will kindly say what objects of interest there are in the neighbourhood worth photographing, with particulars as to light, etc.—**G. P. W.**

3781. **Tone**.—Will "Q." explain how much water he uses for toning Aristotype with 10 ozs. hypo and 3 grs. chloride of gold? See his answer to 3628 last week. I always tone Aristotype satisfactorily with ordinary borax, and gold bath with other prints.—**STILLINGFLEET**.

3782. **Burnishing**.—Could anyone give me any hints about burnishing ordinary prints? Do they have to be done while they are damp, and what is the best medium (if so called) to use. Any information will oblige.—**DUFFER**.

3783. **Havre**.—Can anyone give me any information about this place? Am I likely to have any difficulty with the custom-house people? What is worth photographing, and how about exposure? Shall go between May 28th and July 28th, stay two or three days, and can only take hand-camera and 40 plates.—**TERWALK**.

3784. **Clark's Platinum Process**.—On page 28 of Mr. Clark's book, "Platinum Toning," a bath of carbonate of soda is recommended for putting the

prints in after toning. Would Mr. Clark, or anyone who has used this process, please say what strength this bath should be?—**S. G. S.**

3785. **Hypo**.—I understand a saturated solution of hypo keeps better than a weaker one. Would some one please say what quantity of hypo there would be in 1 oz. of saturated solution.—**S. G. S.**

3786. **Carbonate of Soda**.—I have seen this recommended to be put in the second washing water before toning for silver prints. Would some reader who does so, please say what quantity per pint of water would be best to use?—**S. G. S.**

3787. **Stirn's Secret Camera**.—Will someone kindly tell me the best way to develop the plates for this? Mine have been a German make, and I can't get a good negative. I also want to know how to cut the prints out, I find it so difficult to get them quite round. Are there printing frames made for these circular plates?—**ENQUIRER**.

3788. **Instantograph Lens**.—Will some reader of the **AMATEUR PHOTOGRAPHER** who has used Lancaster's Instantograph lens tell me which is the shortest exposure it takes in bright sunshine, June 21st, with the largest stop on an Ilford plate ordinary?—**CAMERA**.

3789. **Instantaneous Lens and Shutter**.—Will some friend kindly tell me what would be the best lens and shutter for instantaneous street views, whole-plate size?—**SPEED**.

3790. **Wanstead Park**.—Can any reader inform me if there is any place where plates can be had, and slides charged therewith near to Wanstead Park? I go from Liverpool Street, Great Eastern Railway, and do not wish to carry plates if I can help it; besides, I may want to develop and re-charge same day.—**F. A. E.**

3791. **Toning**.—I use the following formula in toning:

Chloride of gold	1 gr.
Acetate of soda	30 grs.
Water	10 ozs.

But fail to get purple tones, the result being instead a dirty brown. Can any fellow amateur tell me the reason of this, or oblige me with a formula which causes a purple tone?—**EXCELSIOR**.

3792. **Silver Prints Reducing in Toning**.—I use the borax toning formula, as advised by W. A. J. Croke, in the **AMATEUR PHOTOGRAPHER** of 28th of last March, but sometimes I find the prints greatly reduce. Can anyone explain to me the reason?—**G. H.**

3793. **Blue Prints**.—What could I add to ferricyanide of potass. and am. citrae of iron to make the blue prints more sensitised? as now it takes two hours and more in strong sun and good negative to print one, and I wish to do a number in a much smaller time.—**G. H.**

3794. **Hiring**.—Would like to know if in Liverpool I could purchase a quarter-plate camera, etc., on the hire system?—**ANXIOUS**.

3795. **Switzerland**.—I require some hints as regards stops and exposures in the neighbourhood of Lakes Lucerne and Como at this season of the year. My lens is a Beck R.R. (focus 8 $\frac{1}{2}$).—**JOHN E. LANE**.

3796. **Lens**.—Will someone kindly inform me which is the best kind of lens for all-round work, and the focal length of same, whole-plate?—**B. R. J.**

QUERIES UNANSWERED.

Mar. 7th.—Nos. 3528, 3530, 3531, 3551, 3554, 3556, 14th.—No. 3566.

21st.—Nos. 3585, 3587, 3593, 3595, 3596, 3601, 3610, 3612, 3613, 3614.

28th.—Nos. 3620, 3629, 3630, 3633, 3634, 3636, 3637, 3638, 3640, 3641, 3643, 3650, 3653.

April 4th.—Nos. 3661, 3664, 3674, 3677.

11th.—No. 3694.

18th.—Nos. 3703, 3708, 3709, 3711, 3715, 3718.

25th.—Nos. 3727, 3731, 3735, 3736, 3742, 3744, 3747.

May 2nd.—Nos. 3752, 3753, 3754, 3758, 3759, 3770, 3765, 3767, 3772, 3773, 3774, 3776.

ANSWERS.

3748. **Buxton**.—"W. L. F." will find plates and all necessary chemicals at Kershaw's, 47, Spring Gardens. He would also have use of dark-room for a trifling fee. Mr. Kershaw is the inventor of the famous shutter; a most obliging man, always willing to help a stranger.—**D. J.**

3750. **Stand for Hand-Camera**.—Messrs. Fallowfield advertise exactly the article you want at 21s. I had the advertisement the other day, but cannot find it now. I am almost sure it was sold by Fallowfield, but if you get no result after writing to them, I shall be glad to help you further if you will write me.—**W. A. J. CROKE** (address with Editor).

3751. **Stand for Hand-Camera**.—See my answer to No. 3750, in this week's issue.—**W. A. J. CROKE**.

3755. **Retouching**.—It would take too much space to reply fully to Ernie Thompson. He had better buy one of the books on retouching, such as "Retouching Negatives," published by Marion (there is one also, I believe, in the **AMATEUR PHOTOGRAPHER**'s list). The following is, however, a brief outline of the process. Having prepared the negative by one of the retouching mediums sold for the purpose, it is placed on a retouching desk, and over it is placed a piece of brown paper with a hole in it about the size of a sixpence, exposing the part to be retouched, the lines and shades are then softened by means of a Hardmuth or Faber best pencil, Nos. 3 or 4, cut to a needle-point and finished up by means of No. 0 sandpaper; the pencil is used to give lines, dots, or a sort of minute closed spiral, according to the effect desired. If the retouching is unsatisfactory, it may be removed by turpentine. For filling up pin-holes, a soft colour such as Prussian blue is used as follows; rub the cake on a plate, and then damp a fine sable brush with water and draw it to a point, just touch this damp point into the colour, and apply it to the centre of the pin-hole, taking care not to touch the edges—it ought to disappear. Spotting a photograph is done in the same way, using a suitable colour, and either gum, or, better, white of egg.—**J. G. P. VEREKER**.

3755. **Retouching**.—Retouching is a difficult branch of photography. If you want to excel in it, I should advise your taking lessons, or look up the subject in a good book. You will find all the information necessary in "Enamelling and Retouching," by P. Piqueur.—**W. A. J. CROKE**.

3755. **Retouching**.—It is very difficult to acquire this branch of photography; but if you will communicate with me I will gladly lend you a little treatise on the subject. Address with Editor.—**H. ROWLAND**.

3756. **Enlargement Film**.—You can get such a canvas as you require from the Brighton Enlarging Company, 31, West Street, Brighton. The price would, of course, depend on the size required.—**H. ROWLAND**.

3757. **Transparency of Shadows**.—This is the term given to the effect of having details, often semi-concealed or suggested, in the shadows of a picture so as to give the idea that they are simply dark and not solid. The effect can often be given by some bright object against a shadow such as water-fowl, bright blades of grass, etc. It is one of the great powers of oil-painting, as by means of glazes of transparent colours details can be placed actually beneath the surface and yet visible.—**J. G. P. VEREKER**.

3761. **Lens**.—10 $\frac{1}{2}$ in. focus.—No. 1, 1 in. = f/10.375 = 1 sec.; No. 2, $\frac{1}{2}$ in. = f/11.527 = 1.234 secs.; No. 3, $\frac{3}{8}$ in. = f/17.292 = 2.778 secs.; No. 4, $\frac{1}{4}$ in. = f/25.937 = 6.25 secs.; No. 5, $\frac{3}{16}$ in. = f/34.583 = 11.19 secs.; No. 6, $\frac{1}{8}$ in. = f/51.875 = 25 secs. That is to say, if No. 1 stop required, in a certain light, 1 sec. exposure, No. 2 would require 1 $\frac{1}{4}$ secs.; No. 3, 2 $\frac{1}{2}$ secs.; No. 4, $\frac{1}{2}$ secs.; No. 5, 1 $\frac{1}{2}$ secs.; No. 6, 25 secs.—**B. DAVIDSON**.

3761. **Lens**.—The relative exposures are as follows: 1, 1 $\frac{1}{2}$, 3, 6, 11, 25.—**P. K.**

3762. **Sensitometer and Plates**.—There is no method of changing the number of times of plates

into the sensitometer number; at least, I should think not. The following table may be of use to "R. E. S." (taken from Wormald's excellent little book "Practical Index of Photographic Exposure") :—Sens. No. 14 may indicate 3 times rapidity of wet-plate; No. 15, 4 times; No. 16, 5 times; No. 17, 7 times; No. 18, 9 times; No. 19, 12 times; No. 20, 15 times; No. 21, 20 times; No. 22, 26 times; No. 23, 34 times; No. 24, 45 times; No. 25, 60 times.—B. DAVIDSON.

3762. Sensitometer and Plates.—The only way of getting the sensitometer numbers of plates is to expose them in Warnerke's sensitometer, price 15s., the illuminant in this case being a luminous tablet. For private comparison the sensitometer tablet, price 4s., and a standard light can be used.—J. G. P. VEREKER.

3763. Copying.—You will not be able to do this unless your camera racks out at least as much as twice the solar focal distance of your lens. Place the carte de visite which you wish to copy, exactly facing the lens, in some evenly-lighted position, preferably the open-air. Expose much longer than if you were taking a portrait, on account of the focal distance of the lens being temporarily increased.—P. K.

3763. Copying.—Is a very simple matter. Look up back answers to this query; it has been so often asked and answered before in this paper. Use a slow plate and small stop, say $f/32$, giving from five to ten minutes' exposure, but it all depends on the light and the subject.—W. A. J. CROKE.

3764. Plates for Copying.—For copying engravings, use a slow plate giving good contrast, such as Mawson's photo-mechanical, but any plate rich in silver will answer. Print on platinum paper, and the result will be found satisfactory if the illumination is arranged so as not to show the grain of the paper.—J. G. P. VEREKER.

3764. Plates for Copying.—Use the plates you are most used to, as any plates will do for what you want. It is only in case of colours when it is advisable to use isochromatic plates. The best paper to print on for engravings is bromide, developed with iron or hydroquinone; of course, different papers suit different subjects.—W. A. J. CROKE.

3764. Plates for Copying.—See answer to 3763. The collodion process is said to give best results. I have, however, got good results in copying line engravings by using ordinary slow plates, developing with plenty of pyro.—P. K.

3766. Eikonogen.—I cannot understand your not getting sufficient density with the above developer. The fault I have to find with it is that you generally get too much. Perhaps you do not make your developer up properly. I have a simple and good formula, which I shall be glad to give you. If you care to have it, insert another query, as it may be useful to others.—W. A. J. CROKE.

3763. Binding Lantern Plates.—I bind my lantern plates by means of strips of black paper and glue, as recommended by the handbooks, and this process gives every satisfaction.—P. K.

3769. Rydsabounds in pretty spots. Here are a few walks along which "Septimus" will find opportunities to expose several plates: (1) Walk along Esplanade by the sea, past St. Olave to village of Spring Vale, back into Ryde by the park. (2) Along Esplanade, passing Spring Vale, along shore to Sea View, along sands to Priory and St. Helen's Bay, and Brading Haven, thence to Brading, take ferry across, and on to St. Helen's Village, then to Nettlestone Green and Fairy Hill, and cross fields to Spring Vale, and back by road to Ryde. (3) To Bembridge, on to Whitecliff Bay and Culver Cliff, on to Yaverland and by a charming line to Yarmbridge, to the right into Brading, and by high road back to Ryde. (4) Through Play Street and Coppin Hall to Haven Street, on to Brook's Heath, Alderman Mill, and Smallbrooke, on to Sea View, Spring Vale, Ryde. (5) St. John's Park to Whitefield Wood, to the right through wood to Ashy Down. (6) Spencer Road Avenue to Binstead Church, on to ruins of Quarr Abbey. These are but a very few pretty walks. "Septimus" should visit Arreton, Godshill, Blackgang, Bonchurch, Shanklin, Carisbrooke, Cowes, Newport, Alum Bay, Niton, Ventnor, etc. Coaches everywhere.—B. DAVIDSON.

3769. Ryds.—The island is full of lovely and interesting objects to engage an amateur photographer's attention. One of the leading chemists, Mr. Tenison Smith, top of Union Street, has a dark-room for the convenience of amateur photographers.—VECTIS.

3770. Hockin's Camera.—I have had one of Hockin's film cameras in use for some time, and it has given me perfect satisfaction. It carries twenty-four exposures (quarter-plate), and the movement for recording the exposures is very ingenious. The camera is very light and strong, and the workmanship is good.—R. W. S.

3770. Hockin's Camera.—I have just commenced photography with one of Messrs. Hockin, Wilson, and Co.'s "Dot" cameras (30s.), and, considering the price, am much pleased with it.—R. P.

3771. Chiswick.—The nearest society for you that I know of is the West London, which hold their meetings at the Addison Hall. Mr. J. A. Hodges, of 87, Chancery Lane, would doubtless give you all particulars, or, failing him, I, as a member, would help you.—W. A. J. CROKE.

EDITORIAL

NOTE.—Anyone requiring an opinion upon photographic apparatus, plates, etc., must give a number or initial for identification, as in no case will makers' names be inserted in this column.

SPECIAL NOTICE.—We are very pleased to find that replies in this column are so much appreciated, but we should be very grateful if those requiring advice would send their letters to us BEFORE TUESDAY MORNING'S post if possible. The time occupied in replying in this column is very considerable, and owing to the often late receipt of letters, many matters have to be left over each week. This we much regret.—ED. AM. PHOT.

SAM WELLS.—For all-round work we should recommend lens No. 1.

A. CONSTANT READER.—We do not know the particular lens, but have no doubt that it is an English-made lens with the name engraved on the mount. We have not heard of any maker of lenses in Sydney. Both the other lenses you name are of excellent manufacture. The pictures reproduced are selected from those contributed to our "Home Portraiture" competition.

C. L.—For a cheap set No. 1 is very serviceable. You do not mention a sufficient description for us to say anything about No. 2. No. 3 is certainly no better, if as good as No. 1.

ZINKENITE.—We should recommend No. 2. The firm have an excellent cheap plate in the market. Of very little use.

SNIP.—Very glad you are satisfied with our criticism. Certainly, if you can afford it go in for a lens by a first-class maker; you will never regret it.

MEDICUS.—The following order: E, A, B, F, D, C. We cannot really comment upon all these cameras. In E, A, and B you have three types of hand-camera, and we are quite satisfied that with a good lens, and shutter in perfect order, you can do admirable work with either. E has a fixed focus. A has a focussing arrangement, and we believe B can be had with or without. We think you should, before deciding, see all three.

L. CATOR.—(1) Of the three you name we should place B first, C second, and A third. (2) We have seen some very capital pictures taken with the lens. (3) We should prefer, under most circumstances, plates. Films are, of course, very light and handy when travelling, and in trained hands but some little difficulty is met with.

S. R.—The photographs are evidently the work of a beginner, but show considerable promise. Points of view are in almost every case carefully selected. In 3 and 6 you have too much foreground, in the latter especially you have lost the crown of the trees. In No. 4 you have a good photograph, but you could have done better by being a little closer and avoiding all those pews. In No. 2 you will note that your distance and sky line is quite spoilt, because you have too great an expanse of foreground.

H. L. HUDSON.—We much appreciate your kind remarks, and are delighted to find that you speak in such high terms of our PHOTOGRAPHIC QUARTERLY. The Negative Exchange Club presented so many difficulties that it dropped.

W.—We cannot advise you to part with such a splendid lens; for the one you name they are not really to be compared. You should be able to do almost anything with the R. E. you have.

BLUEBELL.—A: A very excellent, well-made, and handy camera. You cannot buy better plates than B in the market.

JOHN HOWSON.—We shall hope to survive the chastisement, but you know it is our custom in such cases to publish name and address.

E. P. (Ipswich).—We should advise No. 2 with ordinary dark-slides.

T. H. R.—A very charming picture, well posed; the vignetting is rather unnecessary, and the detail in sun bonnet is lost, giving the head and face a flat look. Have you a print from the negative which has not been vignettied? If so, should like to see it.

MISS BEATRICE M. WILSON.—We have your letter, and fear it would be hardly fair to other competitors. We are sending you an entry form.

P. G. HUNT.—We have reported to Mr. O. C. Kirby.

B. BUCK.—The lens No. 2 we should advise. **J. ROSS CORMACK, JUN.**—Many thanks for MS., which will be used in due course.

G.—The matter published is certainly of interest to many hundreds of subscribers in the district. Some points in your letter we have noted, and thank you for the suggestion. It is, of course, impossible to please everyone, but we strive to cater for all, and are sufficiently conceited to believe that our efforts satisfy most of our subscribers. We have not the least doubt that you would be as pleased to have your doings chronicled as are Messrs. Brown, Jones, and Robinson, to whom you so satirically refer.

JOHN E. LOWE.—We have inserted as a query.

ENQUIRER.—If you buy either E, F, or G, you will have a reliable lens. We can thoroughly recommend E for all-round work. The camera you mention is, for a cheap apparatus, very fairly made. With the lens E you should be able to turn out very decent work, and we should be glad to see some of it.

M. U. T.—We certainly think, as price is a consideration, you should buy G. They are thoroughly reliable, and are English made. We have seen beautiful work done with them. We do not think that in the harbour steps negative you could have focussed sharply, or it is possible there was a mist over the lens. The vessel is better. You will, however, we feel sure, be satisfied with the lens we recommend.

S. T. P.—The hand-cameras you ask about we place in the following order: 1, 6, 5, 4, 2, 3. If you require a simple hand-camera, we would say No. 1; if one having several adjustments, movable focus, adjustable shutter, etc., No. 3; if a detective or "hideable" camera, No. 6. These are certainly the best, and have each their good points. We shall be pleased to help you further if need be.

SEPTIMUS.—We are afraid that we cannot recall the photograph, but thank you for the particulars.

E. M. C.—"Ladies' Competition." No photograph that has previously been entered in any of the AMATEUR PHOTOGRAPHER competitions is eligible.

R. W. S.—We will study your letter re hand-camera carefully, and write you. Thank you. We had the ticket; in fact, have all the "Galleries" now. Should be pleased to see you when in town. Monday afternoons or Thursday mornings.

INTERROGATION POINT.—The plates will be safe in the original boxes, especially if packed in trunks with wearing apparel. After exposure, re-pack in the same boxes, and place in your trunk. We should advise either b or d—both most reliable plates. Both makers have a quick plate, and you will do best to use them.

H. G.—A is by far the more compact, but with B you can do course use films. It is an excellent piece of apparatus, and unless you are used to the roll-holders we should advise you to try B.

LAX.—Thank you for your interesting and descriptive letter. Space will not permit us to describe to you how best to make a hand-camera out of a quarter-plate ordinary camera. You may be able to do it, but will find the focussing a difficult matter to get over, if you use sheaths. We are sorry not to be able to advise about shutter. We make it a rule not to mention names in this column. You may send us a list if you like, and we will mention by numbers or initial letter the most suitable for your purpose.

W. FENTON JONES.—Thank you very much. Shall hope to settle the matter in a week or two.

J. WALKER.—Sorry you have abandoned the idea. **CARLSBAD.**—Most certainly A. We prefer this R. R.

JOSEPH CHAMBERLAIN.—Will write you later.

TALIESIN JONES.—You did well not to have the lens from the man. Deal direct, and you will be sure to be properly treated. You will have an excellent lens for your purpose if you buy No. 1. All objects are, we believe, in focus at a distance of 12 ft. and beyond.

F. C. BEACH (New York).—Will write you in a mail or two. Very pleased with your capital letter. Will think about your suggestion.

F. PARKINSON (Cadiz).—Very good of you to help us.

E. H. WALSH (Toronto).—We will carefully study your letter, and before the "fall" will see what can be done in the matter.

J. E. STRANGE.—Thank you; we deal with the subject.

G. A. SAVAGE.—You will note that we have called attention to the matter.

PERPLEXITY.—We have, and will return your MS. No. 4 is the only hand-camera we can thoroughly recommend; but should advise an R. R. lens as most suitable for all-round work. Sorry your question should have been overlooked; also the MS. We are really so full of matter that we cannot use it.

C. T. PARKER.—Your solutions are evidently too strong. With this intensifier great care is needed; the crystals of ferricyanide should be washed by pouring water over them for a few seconds before they are allowed to dissolve. In any case the negative is stained a reddish colour, but when properly manipulated it should not be of so dense a ruby colour as you describe. A bright light gradually decomposes the ferricyanide, therefore the operations made with it should not be conducted where this is possible. The solution rapidly deteriorates when being used, and although it can be kept for a short time, nevertheless reliance should not be placed upon it without subjecting it to tests.

PYRO.—The ferrous-sulphate you are using has been oxidised by exposure to air, hence the rust-coloured precipitate. You should use distilled cold water for making the solution, and then the acid will not be required. If, however, you prefer hot water, the acid should be added before the iron. This will prevent the precipitate, but will not stop the effects of oxidation. As it is, the solution should not be used for developing bromide prints. Use pure water and pure chemicals, and the trouble will disappear.

E. T. H.—Under many circumstances a doublet is to be preferred. The focus of the lens should not be shorter than the length of the plate, but there is

no rule in the matter. The longer the focus of the lens the better for artistic purposes. The portable symmetrical excel in definition and flatness of field. The rapid symmetrical of 1½ in. focus is the one recommended. A sharp picture can be obtained with both at f/11. The sharpness of a lantern slide, made from a reduced negative, ought to be as good, if not better, than one made by contact from a negative of equivalent size.

Sale and Exchange.

RULES.—Fourpence for twelve words or less, and a penny for every additional three words, must be enclosed with each advertisement, together with the name and address of the sender, which must be paid for, and sent to Hazell, Watson, and Viney, Ltd., 1, Creed Lane, Ludgate Hill. Halfpenny Stamps preferred. A single figure, or group of figures undivided by letter, space, stop, or two ds, counts as one word; compound words count as two words.

REPORTING UPON APPARATUS.—The Editor of the AMATEUR PHOTOGRAPHER will be pleased to report, to any intending purchaser, upon apparatus, etc., offered for sale in the "Sale and Exchange" column, provided such apparatus, etc., is forwarded by the seller to him to the offices of the AMATEUR PHOTOGRAPHER, 1, CREED LANE, LUDGATE HILL, LONDON, E.C., free of charge. The intending BUYER to pay a fee equivalent to a commission of 2½ per cent. upon the sale price of the apparatus, etc. The publishers will undertake the packing and sending of all goods at the cost of the SELLER. As far as possible, the Editor will undertake to send a report within TWO DAYS of receipt of goods.

DEPOSITS.

Deposits for goods to be forwarded on approval may be made with our Publishers, who will hold the amounts deposited until they are satisfied that the transaction has been executed to the satisfaction of both parties. Cheques and Post Office Orders should be made payable to Hazell, Watson, and Viney, Ltd. A nominal charge of 1s. is made whether a sale is effected or not.

N.B.—Trade Advertisements cannot, under any circumstances, be inserted in this column. Such advertisements can be inserted elsewhere at the Trade Scale, which may be obtained on application to Parry and Crawford, 1, Creed Lane, Ludgate Hill, London, E.C.

"Amateur Photographer."—AMATEUR PHOTOGRAPHER, from Oct. 5th, 1888, till Feb. 7th, 1890, all inclusive; what offers?—Arthur Swan, Eastbrooke, Middlesbrough.

Last two vols. AMATEUR PHOTOGRAPHER, perfect. —P. Kinghorn, 110, Cuthbert Street, Gateshead.

"Amateur Photographer," etc.—AMATEUR PHOTOGRAPHER, Jan. 4th, 1889, to April 4th, 1890, 4s.; "The Camera," complete set, 12s. 6d.; PHOTOGRAPHIC SOCIETIES' REPORTER, complete set, 7s. 6d.; "Photographic Art Journal," complete set, 8s. 6d.; some of these are bound; all are quite clean and perfect. —Irwin, 66, Serpentine Avenue, Sandymount, Dublin.

Apparatus.—10 dozen Eastman's stripping films, 7½ by 5, £1; 10 Vergara patent 7½ by 5 double dark-film slides, £1; half-plate R.R. lens, Waterhouse stops, full aperture f/6, with pneumatic drop shutter, £1 5s.—Dollery, 57, Charing Cross, S.W.

Real mahogany leather bellows camera, 7½ by 7½, double swing, rising front, rack and pinion (Lancaster), single slide, with folding shutters and carrier for half-plate; no approval; what offers?—Long, Cyprus Villa, Shirley Road, Southampton.

Quarter Lancaster's Instantograph camera, stand, seven double slides, Ross' stereo lens, adapter, enlarging lens, developing tray, three packets sensitized paper, 1 dozen 12 by 10 Eastman's bromide paper, 50 gold-edge mounts, cutting glass, ruby lamp, 1 oz. Eikonogen, 1 dozen Cowan's transparent plates; the lot, 55s.; offers separate. —Clark, 29, Bordesley Green Road, Birmingham.

Whole-plate square conical bellows, 3s. 8d.; scales, weights, measures, chemicals, 2s. 6d.; half-plate tripod (folding), 2s.; half-plate lens, 2s. 6d.; 18 in. telescope, slightly damaged, 7s. 6d.; description sent.—35, Midland Road, Bedford.

12 by 10 Kinnear camera, brass-bound, two double, one single slides, £5 10s.; Vogel's whole-plate portrait lens, £8 10s.; Lancaster's stereo Instantograph camera, lenses, with double shutter and three double backs, cost £5 9s., price £3 10s.—J. Biddle, 97, Medlock Street, Manchester.

Background.—Cloth background, on rollers, 8 by 5 ft., no seams, never been used much; bargain, 12s. 6d.—39, West Ham Lane, Stratford.

Cameras, etc.—10 by 8 Rouch's new long-focus camera, fitted with all possible improvements, three double dark-slides, and canvas bag for carrying same in, price £8 10s.; half-plate portrait lens (by Rouch), good instrument, price £3 10s.; seen any time by appointment. —Hawkins, Manor Estate, Sidcup, Kent.

Lancaster's whole-plate Instantograph, one wood and three Tylar's double dark-slides, with adapter; 56s.—Carless, Dalton Road, Barrow-in-Furness.

What offers for Lancaster's half-plate International camera, fitted with three Blair's feather-weight slides, new last year, and in splendid condition?—51, Fore Street, Ivybridge.

For sale, Lancaster's quarter-plate Meritoire camera, in thoroughly good condition, with lens, three double dark-slides, and tripod stand; cost two guineas; will take 30s.—F. W. Sears, 1, Creed Lane, Ludgate Hill.

Whole-plate Watson's portable square bellows Tourist camera, cross movements to front, 4 double backs and carriers, R.R. Watson's lens, Watson's shutter, carrying case, perfect order, cost £15 10s., price £9; also several good three and four-fold tripods, cheap.—A. Sprague, 35, Darnley Road, Hackney.

For sale, half-plate mahogany camera (by Meagher), double swing-back, rising front, two double slides, with inner frames for quarter-plates; cost £5; will take 45s. —C. Moreland, 71, Portland Street, Lincoln.

Camera, 10 by 8, rectilinear lens, stand, four double backs, and two cases, latest improvements, nearly new; will sell for £12; cost £25. —H. Lewis, 10, King Street, Egremont.

Camera Case.—Leather case for camera (half-plate) and three slides, good lock, straps, excellent condition; 10s.—Miss Griffith, Littlethorpe, Ripon.

Dark Slides.—New Vergara's 12 by 10 finest polished mahogany dark-slides for films or bromide enlarging; 7s. 6d. each; cost 25s.—Blackmore, Coulter Road, Hammersmith.

Finder.—London Stereoscopic Company's Ready finder; 7s. 6d.—Gordon, 1, Albert Street, Grosvenor Place, S.W.

Hand-Cameras.—Hand-camera, Thomas's Wellington, in black solid leather case, six double backs, two finders, time or instantaneous shutter, focusing lever and screen, can be used on tripod, Wray's 5 by 4 rectilinear lens; cost £12; for £7.—McIntyre, Birkdale, Southport.

Stirn's detective camera, with plates; price £1; excellent condition.—Hewitt, Ryhill, Wakefield.

Rouch's detective camera, covered with leather, most compact reliable instrument, holds 12 plates; price £4 10s.; can be seen any time by appointment. —Hawkins, Manor Estate, Sidcup, Kent.

For sale, quarter-plate Beck's hand-camera, first-rate order, very little used, new; cost £12 12s.; take £6 6s.; including some plates, good reason for selling.—H. Holt, Conservative Club, Liverpool.

Talbot and Eamer's Diamond detective camera, nearly new, sent free for 2s., including three dozen plates, 3½ and 2½; cost 32s.—Cecil Wood, Ilfracombe.

Harmonium.—Folding harmonium, rosewood case, four stops, double set reeds; exchange good camera set, complete.—Laker, Queen Street, Deal.

Lenses.—Ross' 10 by 8 orthographic lens, diaphragms; 73s.—4, Beauchamp Road, Clapham Junction.

Ross' 8 by 5 rapid symmetrical lens, excellent condition, 20s.; also Ross' No. 4 portable symmetrical lens, new, 55s.—Bygrave, 15, Canterbury Road, Brixton, S.W.

For sale, cheap, Optimus rapid rectilinear lens, 7 by 5; price 37s.—Wells, 114, High Street, Kingsland.

Whole-plate portrait lens; will exchange for quarter Lancaster's International camera, or sell 20s.—Jas. Brewster, North Quay, Ayr.

Pair Laverne's rectilinear detective lenses, as Ideal camera, stereo or singly, new; 18s. each.—16, Gladstone Place, Edinburgh.

Lens, quarter portrait, excellent condition; £1; approval.—D. 44, Malvern Hill Road, Birmingham.

Ross' 12 by 10 instantaneous doublet, good as new, for large heads, views, etc.; £4 10s.; particulars.—H. 32, Malvern Road, Beeston Hill, Leeds.

5 by 4 R.R. lens, Iris diaphragm, very rapid, quite new; cost 70s.; will take 45s.—Wallis, Iron Gate, Derby.

Ross' No. 3 c.d.v. portrait lens, good condition; price £5; approval; deposit.—N. Abbotfield, Mannamead, Plymouth.

Lenses, etc.—Lancaster's quarter-plate Silver-rising Rectigraph lens, with Iris diaphragm, and instantaneous shutter between lenses, cost 50s., price 33s.; Vever's half-plate R.R. lens, price 32s., excellent definition, the pair for 80s.—F. Arton, The Green, Darlaston.

Lens and Shutter.—New 9 by 7 Optimus rapid Euryscope, with Volute shutter, perfect, 105s.; 8 by 6½ beautifully painted background on roller, river scene, new, only 10s. 6d.; good tripod, 4s. 6d.; good retouching desk, with drawer, 5s. 6d.—Dalby Smith, St. Thomas Street, Weymouth.

Luggage-Carrier.—Luggage-carrier, suitable for carrying camera on Safety bicycle; 2s. 6d.—Reynolds, Witton, Droitwich.

Microscope.—Microscope (by Johnson), inch and ¼ in. powers, in mahogany lock-up cabinet, with accessories, cost £5; exchange good half-plate R.R. lens and shutter or hand-camera, or sell £3.—A. W. Bullen, Guildford.

Printing Set.—Quarter-plate printing set for sale cheap.—Dry, 48, High Street, Dover.

Sets.—Lancaster's half-plate Instantograph, new, with lens, shutter, stand, and one dark-slide, complete and perfect, for 75s.; International half-plate, also complete and in perfect condition, 85s.; quarter-plate Instantograph, with three extra slides (Delicate's), four in all, for 45s.—J. W. Moore, 7, Market Square, Hanley.

Camera, second-hand Lancaster's Instantograph, with single lens, two double dark-slides, and tripod, all in good order; 35s.—Apply, E. H., 47, Brougham Street, Greenock.

Half-plate bellows camera, 6 double slides, tripod, leather case, W.A. lens, lens with spring shutter, focussing glass, good condition; cost £10; offers.—Masterton, Harris Street, Bradford.

Quarter-plate camera, R.R. lens, and stops, 45s.; or with tripod, 50s.; four double backs are included.—J. E. Hardwich, 13, Sadler Street, Wells, Somerset.

Half-plate camera, slides, and stand, double extension, reversing and swing-back; 25s.—Thomas Dukes, Heath Street, Stourbridge.

Brass-bound quarter-plate camera, leather bellows, rising and falling front, double swing, double extension, four double slides, small finder, and folding stand; £2; complete.—C. Pattison, 137, Isledon Road, Finsbury Park, N.

Lancaster's 1888 Instantograph quarter-plate, in excellent condition, exceptionally good lens; price (with accessories, including tripod, focussing clock, three double backs, and shutter) 32s. 6d.—Further particulars on application to G. T. Nichols, Broadway, Peterborough.

Half-plate camera, leather bellows, all movements, three double backs, four carriers, R.R. lens, Iris diaphragm, complete in case, no better set made, quite new; cost £12; will take £9 10s.—Wallis, Iron Gate, Derby.

Quarter plate studio camera, stand, dark-slide, and portrait lens, also Laverne's quarter-plate rapid rectilinear, perfectly new, price for the lot, 50s.; 5¼ in. genuine Humby bicycle, balls to both wheels, price £8.—Bebbington, Old Trafford, Manchester.

Rouch's half-plate camera, swing-back, moveable front, very light, three double backs, Ross' 8 by 5 rapid symmetrical lens, portable telescopic tripod, Kershaw's instantaneous shutter, waterproof canvas case, all almost new, only used a few times; cost nearly £13; take £3.—Skelton, 3, Wells Walk, Ilkley, Yorks.

Half-plate outfit, extra-special camera, triple extension, three double backs, Optimus rapid rectilinear lens, pneumatic shutter, etc.; cost over ten guineas; sacrifice for seven guineas; in perfect order and equal to new. Also portable dark tent, box form, size when closed, 30½ by 18 by 7½; 20s.—Irwin, 66, Serpentine Avenue, Sandymount, Dublin.

Half-plate Sharp and Hitchmough's Universal camera, three double backs, four-fold tripod, Thornton-Pickard time shutter, latest improvements, 3B Suter lens, absolutely new condition, cost £18 15s., price £12 12s.; Facile detective, cost £3 15s. 6d.; price £2 19s., with Taylor's finder.—6, Montford Place, Kennington.

Watson's 12 by 10 Premier camera, three slides, sliding leg stand, rapid rectilinear, as good as new, cost £23, what offers? Also Wray's wide-angle landscape lens (12 by 10), Kodak, quite new, £3; rapid rectilinear half-plate lens, 30s.; half camera, three double slides, tripod, 30s.; cabinet portrait lens, £1 10s.; Stirn's Secret camera, large size, £1 8s.; Marion's metal camera, with 12 backs in case, £1 2s. 6d. (1¼ in. square); Lancaster's International quarter 330A set, unused, £2 19s.—Robert Pigott Capard, Rosensalis, Queen's County.

Stand, etc.—Quarter-plate folding stand, half-plate metal slide (Tylar's), two vols. AMATEUR PHOTOGRAPHER, two half-plate porcelain developing trays; the lot, 7s., or exchange half-plate tripod stand.—Address, J. Kirkpatrick, Helensburgh, N.B.

Tripod.—Ramsden's patent sliding-leg tripod, collapsible head, 15s.; also three-fold mahogany tripod, 8s. 6d.—309, Liverpool Road, Islington.

Violin.—Will exchange violin, with bow and case complete, for Lancaster's quarter-plate set.—H. Green, Micklegate, Selby.

WANTED.

"Amateur Photographer."—First year of AMATEUR PHOTOGRAPHER, bound or unbound.—Price to Hawkins, Manor Estate, Sidcup, Kent.

Cameras.—Half-plate Watson, Acme, or Hare camera, must be in perfect condition; also, for sale, half plate Instanto (Underwood), including first-class stand; £1 7s. 6d., cash.—Herbert Gresham, 4, Worsley Road, Hampstead.

Whole-plate Instantograph, in exchange for oak case harmonium and case of 8 books, as new, cost 32s.—Thomas Walker, 5, Lancashire Cottages, Mossley, near Manchester.

Camera, etc.—Old half or whole plate box or bellows camera, with dark-slides, cheap for cash, or exchange.—Randle, Crown Street, Kettering.

Camera Case.—Whole plate canvas case for camera and three slides; approval.—Miss Griffith, Littlethorpe, Ripon.

Hand-Cameras.—Hand-camera, quarter-plate, Facile or similar, must have good lens. — Photographer, 84, Park Street, Bristol.

Facile or Ideal, cheap; also folding tripod for half-plate. — Miss Oraney, Trefusis' Villa, Watts' Avenue, Rochester.

Rough's detective camera, must be in perfect condition. — Skelton, 3, Wells Walk, Ilkley, Yorks.

Hand-Camera, etc.—Good hand-camera, would exchange new 8 guinea banjo; also wanted, cheap for cash, automatic washer, half-plate wide-angle rectilinear lens, "Naturalistic Photography," Robinson's "Picture-Making," Galton's "Inquiry into Human Faculty," French novels, including "La Vie de Marianne" (Marivaux).—A., 5, Caroline Street, Birmingham.

Lenses.—Lens, 5 by 4 R.R.—S. Margaret Retreat, Wokingham, Berks.

Ross' R.R. quarter-plate; state lowest price and number. — Bington, Old Trafford, Manchester.

Dallmeyer's wide-angle rectilinear lens, cheap; must be in good condition. — Bremner, 129, St. Mark's Road, North Kensington.

Lens, etc.—Quarter-plate wide-angle lens, also double dark-slide to fit Lancaster's International camera.—Smedley, 25, Calvert Street, Derby.

Sets.—Wray's wide-angle or half-plate lens, also whole-plate camera, with or without tripod, cash; or exchange Scott's patent half-plate camera, rapid whole-plate lens, good condition.—Cotswold, Silver Street, Tetbury, Glos.

Lancaster's Instantograph, or other good set, recent date, in exchange for 50 in. Special Express bicycle, Æolus ball bearings both wheels, in capital condition.—Full particulars to J. Bailey, 151, Great Portwood Street, Stockport.

Whole-plate camera (or larger), with three double backs, tripod, and case, in exchange for nearly new Lancaster's half-plate Instantograph set and cash.—Lewis, 74, Chancery Lane, W.C.

Shutter.—Shutter, also quarter camera, several slides, cheap.—88, Albert Road, Croydon.

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NOTICES TO SUBSCRIBERS.

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NOTICES AS TO ADDRESS.

PUBLISHING DEPARTMENT.—All letters containing Subscriptions, Orders, Remittances, SALE and EXCHANGE Advertisements, or other business matters for the *Amateur Photographer* are to be addressed to the Publishers, HAZELL, WATSON, and VINEY, LD., 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

NOTE.—SALE and EXCHANGE Advertisements, at the charge of Three Words for One Penny, can be received as late as WEDNESDAY MORNING.

ADVERTISEMENT DEPARTMENT.—All communications respecting TRADE Advertisements in the *Amateur Photographer* are to be addressed to PARRY and CRAWFORD, 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

NOTE.—Trade Advertisements are received up to Tuesday morning.

EDITORIAL DEPARTMENT.—All Literary Contributions, Queries and Answers, Photographs for Competition or Criticism, Books or Apparatus for Notice or Review are to be addressed to the Editor, *Amateur Photographer*, 1, Creed Lane, Ludgate Hill, London, E.C.

NOTE.—To ensure insertion all Communications should reach the Editor on Tuesday.

CORRESPONDENCE SECTION.—Anyone wishing to communicate with Contributors can do so by forwarding such Communication in stamped envelope under cover to the Editor, *Amateur Photographer*, 1, Creed Lane, Ludgate Hill, London, E.C.

THE "AMATEUR PHOTOGRAPHER" 1890 TRAVELLING STUDENTSHIPS.

PRIZES.

First Prize	£30 0 0
Second "	£21 0 0
Third "	£14 0 0
Fourth "	Gold Medal.
Fifth "	Silver Medal.
Sixth "	Bronze Medal.

The AMATEUR PHOTOGRAPHER Certificate, duly signed by the Judges, will be presented to the Prize Winners.

PLEASURE CRUISES to the LAND of the MIDNIGHT SUN.—The ORIENT COMPANY'S steamships GARONNE (3,876 tons) and CHIMBORAZO (3,847 tons) will make a series of TRIPS to NORWAY during the season, visiting the finest fjords. The dates of departure from London will be as follows, and from Leith two days later:—

June 4th, for 15 days	July 15th, for 15 days
June 18th, for 27 days	July 23rd, for 27 days
June 25th, for 15 days	Aug. 8th, for 21 days

The steamers will be navigated through the "Inner lead"—i.e., inside the fringe of islands off the coast of Norway—thus securing smooth water; those of the 18th June and 23rd July will proceed to the North Cape, where the sun may be seen above the horizon at midnight. The Garonne and Chimborazo are fitted with electric light, hot and cold baths, etc. Cuisine of the highest order. A

Dark Room provided for the use of Photographers.

Managers, F. Green and Co., 13, Fenchurch Avenue; Anderson, Anderson, and Co., 5, Fenchurch Avenue, London, E.C. For further particulars apply to the latter firm, or to the West End Agents, Grindlay and Co., 55, Parliament Street, S.W.

Subjects for Competitions (not less than Six Prints):—Landscape or Seascape.—Landscape with Figure.—Genre or Figure Study.

Rules, entry forms, and forms for declaration on application to the Editor, "AMATEUR PHOTOGRAPHER," 1, Creed Lane, Ludgate Hill, London, E.C.

THE "AMATEUR PHOTOGRAPHER" FIRST LADIES' PHOTOGRAPHIC COMPETITION.

PRIZES.

First Prize	Gold Medal.
Second "	Silver Medal.
Third "	Bronze Medal.

(These Medals, of the smaller series, will be appropriately mounted as Brooches).

SUBJECTS.

Landscape or Seascape.—Landscape with Figure—Genre or Figure Study.

All Photographs must be received on or before the 31st of May.

NOTE.—The adjudication will be made by lady artists and lady photographers. It is hoped that it will be possible to make arrangements to exhibit the photographs at a Conversazione to be held in the offices, 1, Creed Lane, E.C., during the month of June.

Further particulars on application to the Editor, "Amateur Photographer," 1, Creed Lane, Ludgate Hill, London, E.C.

"AMATEUR PHOTOGRAPHER" MONTHLY COMPETITIVE PAPERS, 1890.

The following Prizes are offered for competition every month:—

Three Prizes of £1 1 0 each.
Three Prizes of 0 10 6 each.
And Three Certificates.

The Papers must not exceed 1,000 words; and those which are awarded Prizes will be published in the AMATEUR PHOTOGRAPHER; others will be selected, and will be arranged for publication in the

"AMATEUR PHOTOGRAPHER'S ANNUAL."

Contributions are to be upon the subjects as list given below; and in order to make the matter more interesting, it is requested that each competitor shall give his *personal experiences*. It is intended that each subject shall be written up by a specialist for the ANNUAL, and the latest information given. All MSS. must be received not later than the 28th of EACH MONTH.

Subjects.

28th May	Exposure.
28th June	Plates and Films: their Development and After Treatment.
28th July	Printing, Toning, Mounting, and Finishing.
28th August	Artistic Effect and Composition.
29th September	Outdoor Instantaneous and General Photography

All MSS. to be addressed to the Editor, "Amateur Photographer," 1, Creed Lane, Ludgate Hill, London, E.C.

"AMATEUR PHOTOGRAPHER" MONTHLY COMPETITION.

No. 12.—INSTANTANEOUS, ANIMALS, Etc.

Prizes—Silver and Bronze Medal with Ribbon and Clasp.

ONE PRINT ONLY. Must be sent in on or before the 14th of May, endorsed "Monthly Competition," etc., to

THE EDITOR, "AMATEUR PHOTOGRAPHER," 1, CREED LANE, LONDON, E.C.

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The Company is also prepared to PRINT FROM THEIR CUSTOMERS' OWN NEGATIVES, AND DELIVER THE PRINTS WITHIN A FEW HOURS at the following Prices per dozen (including Cards):—Cartes-de-Visite, 3s.; Cabinets, 4s.; Boudoirs, 7s. 6d.; Panels, 25s.

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Also of Messrs. GEORGE HOUGHTON & SONS, 89, High Holborn, London, W.C.

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Vol. XI. No. 293.]

FRIDAY, MAY 16, 1890.

[PRICE TWOPENCE.]

✿ OUR VIEWS. ✿

To hold as 'twere the mirror up to nature."—*Shakespeare.*

WITH regard to the proposed Photographic Exhibition in Edinburgh, the *Edinburgh Evening News* of the 8th inst. says, "At the monthly meeting of the Edinburgh Photographic Society last night, it was stated that the Secretary for Scotland had authorised the Board of Manufactures to allow the use of the Royal Scottish Academy's galleries to the Society for the purpose of holding an exhibition of photography and photographic appliances. The exhibition, which, as already stated, will be opened in November next, will continue for about two months. A Committee was appointed to strengthen the Council in organising the exhibition. Arrangements were intimated for a guarantee fund, which it is desired should amount to £600. The society decided to issue medals to successful exhibitors."

* * * *

AN amateur photographic society, the Malta Camera Club, has been formed in the Maltese islands. The club will be of great assistance not only to resident photographers, but also to the numerous visitors that yearly flock to the "Fior-del-Mondo." The head-quarters of the club have been fixed in Valetta. Members will, we understand, have much pleasure in affording visitors any assistance in their power. The Hon. Secretary is Mr. J. H. Cooke, B.Sc., F.R.G.S., Ashfield House, Sliema, Malta.

* * * *

THE popularity of photography is rampant on every side. We are pleased to note that Mr. Andrew Pringle had an opportunity last Saturday of instructing and amusing a large audience of Eton boys in the lecture-room at the College. He dwelt at some length upon military photography and its rapid growth. This part of the lecture was much appreciated by the members of the Volunteer Corps of the College. Mr. Pringle urged upon the "boys" the organisation of a society. The Science master, the Rev. T. C. Porter, M.A., expressed himself ready to receive the names of intending members. We understand that there are no less than one hundred of the "boys" working cameras.

THE Belfast Y.M.C.A. Camera Club have been kind enough to send us their programme for summer outings, and under the same cover they give a preliminary notice of classes, etc., for their Exhibition in April, 1891, which appear to be well arranged.

* * * *

WE publish in another column rather an extraordinary letter from Mr. E. R. Shipton, the Secretary of the Cyclists' Touring Club, in which he calls in question our right to use information contained in the "Cyclists' Touring Club Handbook" for the purposes of securing the use of dark-rooms throughout the United Kingdom, for subscribers to the *AMATEUR PHOTOGRAPHER*. As far as we know, the book and all that is in it is public property. We have made an application to every hotel-keeper named who has a dark-room, and have asked them to place ladies and gentlemen we may introduce upon the same footing as members of the Cyclists' Touring Club. We presumed that the hotel-keepers are free agents, and we have yet to learn that they are not. Many, we are pleased to say, have conceded to our request, and by their so doing three things have been accomplished—(1) We have added additional dark-rooms to our list; (2) we have secured an advantage for our subscribers, and (3) shall hope to increase the business of the hotel-keepers.

* * * *

MR. SHIPTON is not concerned as to whether the matter is a commercial one or not. The club of which he is Secretary is well known to be a commercial undertaking. We must also beg him to allow us to conduct our business in our own way, and he may rest assured that we shall always strive to do the best for the greatest number. We do not raise the point, but believe it is possible that Mr. Shipton may find that the securing of "dark-rooms" for photographers was originated in this journal.

* * * *

As the Ladies' Photographic Competition is likely to result in a large number of photographs being entered, we shall be glad if competitors will send in their work as early

LADIES' COMPETITION.—All photographs must be received by Saturday, May 31st, 1890.

as possible. The last day for sending in is the 31st inst., and it will considerably help us if we receive photographs entered before that date if possible.

* * * *

THIS week we add some forty or fifty more "Dark-rooms" to our register, and, like one Oliver, are still asking for more. It is very desirable that our list should include all seaside and touring resorts. In towns on the Thames between London and Oxford, we shall be glad of the use of "dark-rooms," either belonging to amateurs, dealers, or professionals.

* * * *

IN our note on warm tones we omitted to mention the very beautiful results to be obtained upon Alpha paper. The Britannia Works Company have sent us some really excellent results on matt-surface, especially a large photograph of Tinworth's very beautiful frieze "The Release of Barabbas." We shall hope shortly in one of our publications to give an example of work on Alpha paper.

* * * *

IN another column we publish a very interesting account of the meeting of the members of the Birmingham Photographic Association, at which the plans were discussed and the Committee formed for the carrying out the necessary arrangements for the commencement of the Photographic Survey of the County of Warwick. Alderman Stone, the President of the Association, in his address, gave the members some excellent advice which, if acted upon, cannot fail to help the movement.

* * * *

SOME weeks back we sent a special Commissioner to inspect the automatic photographing machine at the works of Messrs. Salter and Co., at West Bromwich, and, as a whole, our commissioner was able to report most favourably upon the machine, as such. This week we see advertised a company with a capital of £100,000 established for the purpose of purchasing the patent rights and working the machine. The price asked for the patent rights, in our opinion, stamps the Company as a most undesirable concern to place money in. The clause in the prospectus referring to the purchase states, "*The price to be paid for the patent rights for the United Kingdom, together with the benefit of all contracts in connection therewith, and the secret for preparing the chemicals, has been fixed at £60,000, payable as to £300 in founders' shares, £39,700 in cash, and the balance in shares or cash at the option of the Directors; this will leave a working capital of £40,000, which will be ample for the purposes of the Company.*"

Yes, ample, if the British public are foolish enough to subscribe the money. It may or may not be desirable that everyone shall be photographed at his or her sweet will for a penny, but we cannot imagine that the public will be foolish enough to give £60,000 for the rights of an untried machine. The profits upon work to be done with it are at present based upon estimates which have been drawn up by the Company's promoter. The Directors, no doubt, are honourable men, but they are unknown in photographic circles. The only gentleman who has any connection with photography is Mr. Ladislav Nievsky, who is advertised as "Chief Photographer, London Stereoscopic Company, Limited, 106-108, Regent Street, W. (Technical Adviser to the Board)." This statement is hardly in accordance with fact, for we notice that in Tuesday's

Standard Mr. S. Clark, the Company's Secretary, advertises that—

"The name of the London Stereoscopic and Photographic Company (Limited) having been published in the advertisements and prospectuses of the above Company, in connection with an operator who is no longer in their employ, the Directors of the London Stereoscopic and Photographic Company (Limited) desire to announce that neither directly nor indirectly have they or their Company any interest in, or connection with, the Automatic Company."

Although we are always delighted to uphold and support all movements for the advance of photography, we cannot counsel our readers to invest their money in the purchase of the patent rights of a machine that turns out, at best, the inartistic "tin type."

* * * *

WE have again received the excellent programme of rambles of the Manchester Amateur Photographic Society for the summer season. This society may be taken as a model in all matters affecting the organisation of photographic societies.

* * * *

WE are asked to state that the Committee of the East Dulwich and Peckham Photographic Society have decided to continue their meetings on the first and third Fridays in the month throughout the year, instead of as last year suspending the second meeting during the summer months. The excursions will be held as last year. The first, to Carshalton, on Saturday, the 17th. At the meeting on Friday next the subject for discussion is "Apparatus." We strongly uphold the holding of informal meetings during the summer months in addition to the "outings," as by so doing members keep "in touch," and are able to compare notes upon work done.

* * * *

WE feel it our duty to caution subscribers against having dealings with firms offering to supply well-known makers' goods at discounts varying from 10 to 25 per cent. We have taken some trouble to trace these matters, and find that it is the regular practice of certain firms to communicate with advertisers in our "Wanted" column, offering to supply the article required, new, at a large discount, causing, in many cases, much disappointment, as, after entering into correspondence with these firms, it frequently turns out that they cannot supply the article, but strongly recommend their own special lens, camera, etc. Complaints reach us by almost every post, not only from the victims, but from manufacturers and dealers, who assure us that they will not have any dealings with such firms, and could not afford to allow them the discounts which they offer broadcast to retail purchasers. To guard against this annoyance, our publishers will be pleased, for a small fee, which will be stated next week, to receive and send on to advertisers in the sale and exchange columns, replies to their advertisements. Such advertisements will be numbered and the address duly registered.

The Sale and Exchange column was established for our subscribers who have apparatus to dispose of, and who are willing to sell or exchange it for other articles, or for making known their wants and requirements. We jealously guard against trade advertisements being inserted, and would ask our readers to co-operate with us in order that the purposes of this special section of the paper may not be violated.

Letters to the Editor.

YELLOW CALICO V. RUBY GLASS.

SIR,—It is interesting to note how regularly this subject crops up for discussion, and how seldom the ordinary amateur photographer will experiment for himself or herself.

To me it appears that the whole matter lies in a nutshell, viz., one make of plates will fog when exposed to the light filtered through yellow calico, whilst another will not, and it may be taken for granted that a plate which will not fog in a yellow light will not do so when exposed to a ruby light.

By expending one or two plates, every one could test this for himself or herself. Provided that in other respects the dark-room was light-tight, all that has to be done is to load a dark-slide, then draw the shutter half way out, and expose the plate for ten to fifteen minutes to the light, ruby, or yellow, or cathedral green, whichever is fancied. While the exposure is going on, a normal developer should be mixed, and a fixing bath poured out; on the time of the exposure being up, the light must be obliterated, and development and fixation of the plate carried out in darkness. If the plate does not fix out quite clean it may be assumed that the light is unsafe.

In my own experience I have adopted this plan, and feel convinced that I have saved many plates by using a proper and safe light. For instance, I use two brands; one I can develop with impunity in a yellow light, the other fogs at once; and in consequence I use two screens, one yellow and one ruby.—I am, Sir, yours, etc.,

A. R. F. EVERSHED.

May 5th, 1890.

* * * *

MONTHLY COMPETITIONS.—A SOCIETY WANTED.

SIR,—I felt highly honoured at receiving the Silver Medal today for first prize in the "Figure Study" Competition. It is, I may mention, the first medal I have received for my attempts in photography.

I am an amateur of less than two years' standing, and may say that almost the whole of my photographic knowledge has been acquired through the medium of your excellent paper.

Unfortunately, as there is no photographic society in the Crystal Palace district, I do not have opportunity for intercourse with other amateur photographers. You have helped to start a good many photographic societies, and I should be heartily pleased if you could assist in the formation of one in this district.

I shall be glad to hear from anyone interested in forming a photographic society in the Crystal Palace district.—I am, gentlemen, yours faithfully,

G. F. ZIMMER.

May 8th, 1890.

* * * *

MR. BULMER.

SIR,—I hope you will excuse my troubling you on a subject which I think is of importance to amateurs.

A certain photographic dealer named F. D. Bulmer, of Wakefield Road, Dewsbury, appears to carry on business in what looks like a dishonest manner. His *modus operandi* is, as follows:—

One of the members of my boys' club (the Gordon Camera Club) advertised in your sale columns for a quarter-plate Lancaster's Instantograph. He received an answer from this man offering him a new one direct from the makers for £1 14s. 6d., the maker's price being £2 2s. We sent the money, and received a reply asking to be allowed "to send one of our Reliable sets at £2 15s. They are far superior to Lancaster's. You can have one down for a week's trial, and we will pay carriage one way if not approved." This we declined, and asked to have a Lancaster's set sent, or the money to be returned. He then sends a post-card, "Dear Sir,—It will be a week or ten days ere our agents can send you a Lancaster's set. *Shall we send or not?*"

To this we replied that we could not wait that time, and asking for the money to be returned.

On the 1st of May we received a post-card stating the money should be sent on the 3rd. We waited till the 6th, and as it had not come I sent a lawyer's letter for it. The money arrived on the 6th, minus 2s. 6d. which had been deducted for expenses. As all the expenses had been two or three stamps, I wrote, expostu-

lating, when I received the following: "May 8th. Sir,—Replying to your letter, we would say that you took upon yourself the right to cancel order for the set, therefore must bear the expense incurred. Your order was duly filed with our London agents [see words italicised above]; we had to cancel same. We may say that we have upwards of twenty clients waiting for sets. If you can see your way to give us an order, we will allow you the 2s. 6d., otherwise we cannot."

I see from your columns that this man has been engaged in a somewhat similar proceeding with Taylor's lenses. Can you suggest some means of putting a stop to or exposing him? For aught I know, he may be making his living out of the half-crowns he deducts for mythical expenses. I am seriously thinking of suing him.

THE GORDON CAMERA CLUB.

My boys' club is a great success. They are all working lads, and are getting very proficient. I have to thank you for inserting my previous "begging" letter, whereby I got a good number of useful articles. Allow me also to say that my own intense interest in the art for the past three years, and whatever proficiency I may have attained, is due very largely to the constant perusal of your most valuable paper.—Yours faithfully,

May 9th, 1890.

SOLICITOR.

* * * *

DISTRICT EDITORS.

SIR,—I am glad to see that "A President" has thought it worth while to reply to my letter, as apparently he himself is particularly affected by the questions raised.

To take his points seriatim: (1) "A President" says, "A journalist is less likely to grasp salient points or appreciate technicalities." If so, why? seeing that one of your qualifications of a district editor is that he should be a photographer.

(2) "A President" suggests that "there is no valid reason why he should be more impartial than any one else." To this I answer, in most societies cliqueism is sure to exist, more or less, and I contend that the Press man being solely representative of the interest of the journal would be outside any party cliqueism and favouritism. The comparison between "Radical reporters" and "Primrosers" seems to be far-fetched, for it has never been suggested that any one having an altogether antagonistic interest should be eligible as district editor. As regards the inference that a journalist would be more open to bribes, I, at any rate, give him credit for something better; besides, too, his conduct in this respect would be more controllable by his employers than would an irresponsible member.

(3) As to the Press man requiring a greater honorarium, that is not a question for "A President" or myself, but rather for the proprietors, who I do not think would withhold a fair remuneration to a fitting person.

What "A President" urges on the other hand is simply a reiteration of his objections to a Press man, being only the same arguments reversed; however, I will continue to treat them seriatim.

(1) The member, "A President" thinks, would be better acquainted with the subject than a journalist. As I said before, the Press man is to be a photographer, and presumably would know his business.

(2) "A President" says, "A member would not be less fair than a journalist." But being dependent upon his society, and heated in his own arguments used in the discussions, a member must necessarily be less impartial than a journalist, who is only concerned to faithfully represent his employers. As to his reports being "open to the criticism of his fellow members," if they are not more so than now, the advantage would be very slight. And as to "the executive of a society using their influence to ensure his impartiality," they would not be more likely to do so than hitherto, but rather the contrary, especially when they would have such a good opportunity of using their influence for self-glorification. Lastly, as to any unfairness being intimated to you, Mr. Editor. This would not necessarily be resorted to, as the modest but sound members would not care to lodge complaints, and would still continue to have their voices drowned by the more noisy but superficial ones.

(3) "The remuneration that would be required would be nominal." It is open to doubt as to whether it would not be a false economy.

With regard to the observation that "the sense of responsibility in a district editor would be far greater than it is in the case of a

quasi-anonymous reporter," I am at a loss to see the drift of the argument, except that if it means anything it is entirely in favour of the Press man.

This, I think, ends my answers to "A President's" objections and contentions; but as to the last two paragraphs of his letter, it seems to me it is here where the shoe pinched, inasmuch as "A President" evidently feels he cannot with fairness, after my previous letter, constitute himself the alpha and omega of his society.—I am, yours, etc.,

A VICE-PRESIDENT.

* * * *

INEXPENSIVE "DETECTIVE" CAMERA.

SIR,—With regard to a cheap and portable hand-camera, I hold the same opinion as does your correspondent "F. G. B." My attention was first directed to the subject on seeing the Demon camera, which of course in its present state is little better than a toy—at any rate, it proved so in my hands. If my ideas are worth anything, I would suggest to the manufacturers of the above-mentioned camera to make an instrument on the following lines:—Retain the back arrangement, which I think is very simple and compact, but make it large enough to take in a $3\frac{1}{4}$ by $3\frac{1}{4}$ plate. In place of the conical tube on which the lens and shutter are fixed, I would have a telescopic sliding tube arrangement, similar to the front of a lantern, and this to have one or two sliding tubes, so as to enable the camera to shut up to one half the length it would be when fully opened out. As to the lens, I think a fairly good one of about $3\frac{1}{4}$ or $3\frac{1}{2}$ inch focus could be supplied and fitted for about three shillings. As regards the shutter, I think a better one might be devised than that supplied with the Demon. The dimensions of such a camera would be approximately $3\frac{1}{2}$ by $3\frac{3}{4}$ by 2 inches when closed up, and when fully extended would be about 4 ins. from back to front. I am supposing it to be made of block-tin, or something similar, but instead of being nickel-plated, let it have a thick coat of japan, so as to be as unobtrusive as possible. I see no reason why an instrument of the above description could not be turned out for fifteen shillings or thereabouts, and be productive of good work. Such a hand-camera could easily go into the pocket when closed, and when wanted for an exposure could be brought into use at a moment's notice.—Yours, etc.,

T. D.

SIR,—Your correspondent "F. G. B.," writing from Trieste, whose letter was published in issue dated May 9th, has done well in pointing out that there is a great want of a portable hand-camera. Although I cannot believe that lenses, if they are worth using, can be made under the prices at present quoted, yet there seem to be unreasonably high prices quoted for some cameras. It is beside the question to state the glass of a lens is procurable for sixpence. A pound of iron, at a cost of a penny, can be manufactured into watch springs; or the reverse, a copy of the AMATEUR PHOTOGRAPHER can be purchased for twopence, but that is no guide to what it cost in producing. As to cameras, the same argument applies.

Why hand-cameras should be made solid, rigid, and immovable as far as outward appearance is about as questionable as why in time past all cameras should be of the same type or model—a wooden box. There is no earthly reason why they should not be made of the bellows body, to slip in the pocket when not in use. Perhaps a tubular form, like a "telescope," would be as well as any. Any manufacturer who brought out a cheap, reliable, and really portable camera and walking-stick stand would, no doubt, as your correspondent points out, reap his reward. S. E. K.

May 10th, 1890.

* * * *

"KODAKS," AND THE LENSES USED.

SIR,—My attention has been called to a discussion which appears to have been started by a Mr. F. T. Norris, and continued by Mr. Fred. Davis, and another, signing himself "F. G. B.," the basis of the discussion being a statement of the said Norris, that the first cost of the Kodak lens was about 6d. each.

As there are in all eight sizes of the series of hand-cameras known as the Kodak, I must do these gentlemen the justice to assume that they are not yet aware of the existence of more than one, and that the first and smallest of the series; but when Mr. Norris stated as a matter of fact that the lens of the Kodak, or of any of the series of Kodaks, costs only 6d., he went quite

away from the facts, and descended to the plane of pure invention.

The object of the Eastman Company in introducing the smallest, or No. 1, Kodak first should now be obvious to any business man. The entire system of film photography at that time was under the ban of popular prejudice, and this prejudice was encouraged and fostered systematically by a large portion of the dealers in photographic goods.

The No. 1 Kodak appealed to a perfectly new audience, and made its way into a field which had never been dreamt of by anyone in the photographic trade, and it was and is capable of making as good negatives as any hand-camera within the scope for which it was intended.

The people who criticise this little instrument, and they all rush into print, do it of sheer ignorance of the crudest elements of optics, for never was a Kodak sold without a manual of instructions, which calls special attention to the angle of the lens, and the evils which would result from an attempt to use it improperly.

If these critics or any of our readers who have been misled by their statements, really care to know the truth, let them examine a No. 1 Kodak lens, and they will find that it consists of two periscopic lenses. If they care to carry the investigation further, they will find that the larger Kodaks are all fitted with double achromatic combinations, and anyone having the slightest knowledge of practical optics would hardly care to venture the suggestion that it would be possible to produce the same at the price mentioned with so much assurance by Mr. Norris.

Your last correspondent, who shelters himself under the initials "F. G. B.," of Trieste, appears to have a withering contempt for goods of American manufacture, and of the poverty of German ideas.

In this connection, I may here state that the Eastman Company gave carte blanche to two of the most respected and successful makers of photographic objectives in Great Britain to produce a better lens for the No. 1 Kodak, and they both, after experimenting, in the one case for a period of six months, and in the other for nearly one year, reported that this was *impossible to do* unless the focus was increased. Quite so, you cannot keep your cake and eat it also—we knew that long before their decision.

As to German scientific knowledge and manipulative skill, no higher compliment need be given than the fact that the most scientific men at present hardly consider their education complete until they have taken either degrees at some German University, or are sufficiently well versed in the German language to read intelligently the scientific and technical productions of this race, which is now admittedly the most scientific and systematic of the age.—Yours truly,

WILLIAM H. WALKER.

The Eastman Photographic Materials Co., Ltd.,
115, Oxford St., W., May 12th, 1890.

* * * *

LIGHT IN THE DARK-ROOM.

SIR,—There appears to be considerable difference of opinion as to the quantity and quality of light which may be safely admitted to the dark-room during the operation of fixing negatives and prints with hypo-sulphite of soda.

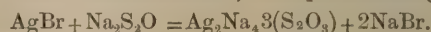
Some advocate the same intensity of ruby or orange that would be employed towards the latter end of development. Others again hold that such precaution is quite unnecessary, and advise working by candle, lamp, or even diffused daylight.

It is to the latter especially that I would offer a word of warning; a warning by no means unneeded in these days of "photographic surveys," where permanency is the first desideratum.

Take, for example, the fixing of a gelatine bromide plate in hypo; we have:



This, of course, is as it should be; the AgNaS_2O_3 , being freely soluble in water, is easily eliminated by the usual process of washing; but allow actinic light to reach the solution during fixation, and we at once have a highly insoluble double hyposulphate of silver and sodium formed, the equation being:



It is hardly necessary for me to comment on the danger in-

curred where the formation of this insoluble compound is permitted.

The above equations are equally applicable to the other salts of silver, as AgCl , AgNO_3 , etc.

Should the pseudo successful worker by actinic light feel disposed to question the necessity of fixing in "that stuffy dark-room," I beg to refer him to Captain Abney's "Treatise on Photography," to which I am indebted for much of the substance of this letter.

Trusting that you will consider the above of sufficient interest and importance to find a place in your columns, I remain, yours faithfully,

C. J. DAVIES.

May 12th, 1890.

* * * *

DARK-ROOMS AND REDUCED HOTEL TARIFFS.

SIR,—In common with many other members of the Cyclists' Touring Club, who are also amateur photographers, I perused with some little surprise the editorial announcement in your issue of the 2nd inst., to the effect that you were about to endeavour to obtain—for such of your readers as were willing to remunerate you for your labours—the use of the dark-rooms, and the benefit of the special tariffs of the hotels already secured by the Cyclists' Touring Club.

That surprise was, however, considerably increased by an inspection of the paragraph in your paper of last week, wherein you allege, *inter alia*, that your thanks are due to myself "for the help rendered us."

If this statement be an acknowledgment of your indebtedness to the Club I represent, in that it has provided you in its Hand-book with a published list of hotel head-quarters, and quarters already under legal contract with it, as well as with a reliable list of temperance houses recommended from long experience, as the ground upon which to exploit your purely commercial crusade, that fact might have been made frankly apparent; if, however, it is intended to convey my official, or even my private, concurrence in your plans as now made public, I must, in justice, beg you to allow me to state that, so far from having assisted you in your efforts, I regard the whole scheme as the outcome of plagiarism pure and simple.

Having thus made clear my individual opinion of your recent move, I may, perhaps, be permitted to add that, while I could have wished that greater originality had been displayed, and that your management had possessed sufficient courtesy to inquire whether or not the Council of the Cyclists' Touring Club had any objections to urge against the wholesale circularising of the proprietors of its head-quarters, in which you have recently indulged, I am not such a dog in the manger as to object to others sharing in the benefits my Club has secured for its photographic members as such. On the contrary, I am of opinion that as far as the use of dark-rooms and changing cupboards is concerned, the greater the demand that arises for this accommodation the greater will be the facilities placed at the disposal of all of us. The tariff question, however, stands upon another footing, and the landlord is not a free agent, as the following clauses from the legal agreement into which he has entered with the Cyclists' Touring Club will testify:—

(1) That he will at all times receive and entertain any of the members of the said Cyclists' Touring Club, whether ladies or gentlemen, who may produce upon application a valid ticket of membership for the then current year, and that he will charge them a tariff of prices which shall in no case and under no circumstances exceed the following:—(Here follows tariff "A" or "B.")

(2) That he will charge the said reduced tariff only to the bona fide Members of the Club, but they shall first be required by him to produce their respective and individual tickets of membership for the then current year, and further that he will not accord or admit to any privileges, benefits, or reductions derivable under this agreement, any cyclist or tourist who does not, by producing his current certificate of membership, prove that he is a member of the Cyclists' Touring Club.

It is true that the landlord may, with a view to extending his business, violate both the letter and the spirit of the latter paragraph; but should he consent to give to outsiders the same privileges and reductions as those to which the members of a club some 20,000 strong are entitled—a club which, at very considerable cost and no inconsiderable labour originated and perfected, greatly to the benefit of landlords as a body, the scheme you now coolly propose to bodily appropriate—he

cannot complain if the patronage of his first and best customers is diverted elsewhere.

As an amateur worker I am, I hope, in sympathy with every disinterested movement having for its object the advancement of photography; but I may, perhaps, be excused for expressing the opinion that such movements as the inauguration of institutes, the controlling of exhibitions, including the judging of "pictures," the organising of dark-rooms and hotel accommodation, and all similar matters are better left to photographic or other amateur associations, who, from their very constitution, are raised above the purely commercial element and the desire for self-advertisement. That this view has already commended itself to all the best-known workers in photography is a fact, of which even you must, ere this, have had abundant evidence.—Yours faithfully,

139 and 140, Fleet St., E.C.

May 13th, 1890.

E. R. SHIPTON

(Sec., Cyclists' Touring Club).

The Complete Photographer;

OR,

THE MODERN RECREATION OF CONTEMPLATIVE MEN.

By H. P. ROBINSON.

CHAPTER X.

Intensification, Reduction, Varnishing, Preparing the Negative for Printing.

PHOTOGRAPHER.—When your negative is dry, and you do not feel quite sure that it has the right intensity, you may take a print if you like, taking care that you do not use damp paper, which would infallibly produce spots in part of the unvarnished plate. If you find that the image is too thin, you may proceed to intensify it. There have been many methods proposed for performing this operation, but for the sake of clearness I will confine myself to the one I know to be quite efficient, and, as far as the experience of five or six years can tell us, quite permanent. Place the negative in water for a quarter of an hour while you prepare the following:—

Bichloride of mercury (saturated solution)	1 part
Water	2 parts

Immerse the negative face up in a bath of this solution, and watch the effect. The dull grey brown of the image quickly assumes a lighter grey colour, and if left for a longer time would become nearly white, but it will usually be found sufficient to remove it at the grey stage. The plate must now be thoroughly washed, at least one hour as before. The only preventive of stains is thorough washing. The next parts of the process is to place the negative in a saturated solution of common washing soda, where it may remain some minutes; the time is not important, as no further change takes place after two or three minutes. Another thorough washing must follow. You will find that the negative has increased in intensity and is of an agreeable printing colour. It is usual to employ a very weak solution of ammonia, which produces a black colour, for the final bath, but I much prefer the colour given by soda. Both the mercuric and soda solutions may be used many times over; indeed, the mercuric improves by use by losing its rawness. The solution I am using is quite five years old, if any of an old, constantly replenished solution can be said to exist. If the negative is still too weak, the operation may be repeated.

There is just one kind of image that it is impossible to intensify with good effect—I mean the much over-exposed or fogged variety. You will easily see that if the plate is fogged all over, the effect will be to intensify the fog as well as the legitimate image.

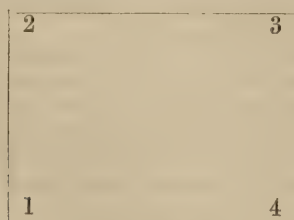
If your negative is too intense it may be very easily reduced. There are, of course, many ways of doing this, chiefly with some of the iron salts, but the resulting colour is often yellow and deceptive. I have tried many of them, but never found any to equal the following for simplicity and perfection of result:

Mix, by measure, one part of saturated solution of alum, with two parts commercial solution (it is only sold in solution) of hypochlorite of soda. Filter off from the white gelatinous precipitate. Keep the filtered liquid in a tightly stoppered bottle; it quickly loses strength on exposure to the air. Add one part of the mixed solution to four parts of water, and drop the plate—which should have been previously soaked in water—into a tray of it. With a fresh solution the face of the image quickly changes to a grey colour by the formation of a chloride of silver compound. Throw away the solution, give the plate a good rinsing under a tap, and put it into a bath of about three ounces of hyposulphite of soda to one pint of water for ten minutes. This dissolves the newly-formed silver chloride, and removes evenly some of the density of the negative. Wash and dry. If still too intense, repeat the operation. The one precaution to take is, not to let the negative remain too long in the reducer, for a freshly made solution is quite capable, if given time, of eating the image entirely away, and leaving bare glass only. However, short of that catastrophe, an over-reduced image can to some extent be recovered by re-intensification, but it is not safe to rely much on this.

PUPIL.—Really there seems to be a great deal to do before you bring your negative to perfection.

PHOTOGRAPHER.—You must recollect that it does not follow that every negative should go through all these vicissitudes. Intensification and reduction must be considered as necessary evils which enable us to correct errors; it is nearly impossible to always avoid. I suppose that no photographer always exactly hits the density he desires. But to continue.

When the negative is to your mind, it should be varnished. I know that many photographers hold that this is not necessary. Perhaps they are right when a few prints only are required, but it is a risky and slovenly practice. Varnishing is a simple operation, but not always properly performed, so I may as well show it to you. Warm the plate well, to drive out any moisture that may be in the film, before the fire or over a Bunsen burner on which a piece of plate iron is placed to prevent the flame igniting the varnish, and let it cool. Now take the plate by corner No. 1, dust it with a flat camel-hair brush, pour a pool of varnish on the centre



of the negative, tilt first to corner 1, then round the plate to corner 2, then 3, and drain off into the bottle at 4, giving the plate when upright a slow lateral or rocking motion to cause the lines of varnish to coalesce and prevent crappiness. All these movements should be made with deliberate slowness, and not a drop of varnish will be spilt. The plate must now be held over the burner until quite warm, and the varnish will dry hard and bright. Care must be taken to keep the plate nearly upright until the varnish is set, or a return wave may cause a thick ridge at the edge of the nega-

tive. It should not be used for printing for some hours after varnishing.

PUPIL.—At last the much worried bit of glass is ready for printing.

PHOTOGRAPHER.—Not yet. Not one negative in a dozen is ready for printing right away. We will put this one on a retouching desk and consider it.

PUPIL.—Is this where you put the "inner meaning" into the negative?

PHOTOGRAPHER.—Don't be satirical. The inner meaning of nature is nothing to you yet. You must have some experience—it used to require a lifetime, but three or four years is considered long enough now—before you may hope to have "insight" and use the occult terms of art; and then you must not expect to understand what you mean.

PUPIL.—Does that matter?

PHOTOGRAPHER.—Apparently not, but some think it sounds well. I cannot recommend much interference with a landscape negative. Here are a few spots and pinholes caused by dust; they may be stopped out with water-colour, and here is a "pit" in the film that will require careful filling up or it would print as a dark round spot, which would surely not add to truth. Then the sky is dense, and will print as a mass of blank white paper, which would not help to give a true impression of the scene as seen by an artist. By means of combination printing we may remedy the defect of photography, which only under rare circumstances gives the sky in keeping with the landscape. To do this it is well to have in stock a large collection of skies (of your own taking, of course) all dated and with notes added of circumstances, light, effect of the scene, etc. Those who mistrust their own knowledge of nature recommend that the cloud negative should be taken at the same time as the landscape, for fear of not being absolutely true if taken at a different time, but anyone who has studied the times and seasons of nature, and her appearance under different aspects, is not likely to go far wrong. The clouds must be taken quickly, but not necessarily and of course with a shutter set to work as quickly as possible, as recommended by an inexperienced writer. I much prefer using slow plates and a slow shutter, or the hand. I have exhibited many landscapes in which the sky has been a prominent feature, but never one taken with a shutter.

PUPIL.—Is all this legitimate?

PHOTOGRAPHER.—I consider almost anything legitimate, short of painting on the print, that makes the final result more like nature—or the truth of nature, as some superfluously call it. The difficulty is that any interference with the negative is so seldom well done. Retouching in portraiture has been carried to such a perilous pitch that nature has been forgotten; yet some retouching is absolutely necessary, or photographs would as much err on the side of freckles, exaggerated lines, and other disfigurements as on the side of the petrification of nature as now practised. The fault is that too much is done, of the highest skill, I grant, as regards the delicacy and fineness of manipulation, but with very little heed to nature. In landscape much less is done, because much less is possible. Something, however, can be done, but if unskilfully is worse than useless and brings discredit on the art. I will very briefly mention some of the things that are possible.

If you want to add a sky, and the sky of the negative is not dense enough to print white or nearly white, it may be stopped out with Bates' black varnish, as a rule on the back of the negative, but there are occasions when touches may be given on the varnished side.

If some parts of the negative come too light, a piece of *papier minérale* may be pasted over the back, and when dry the parts that require most printing may be scratched out.

We won't have anything to do with artificial skies, or cotton-wool clouds; they belong to a bygone day.

There are such things as local reduction and intensification of the negative, but we won't interfere with nature to that extent, although I have seen local development recommended by some of those who pretend to truth to nature. A great deal may be done in proper hands with black varnish and *papier minérale*, but I cannot recommend you to go much further in correcting or improving the negative.

(To be continued.)

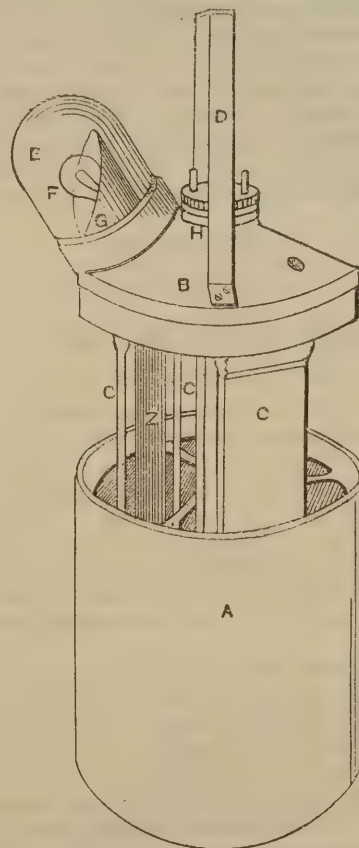
The Electric Light and Photography.—III.

By T. C. HEPWORTH, F.C.S.

MANY photographers would be very glad to adopt the electric glow lamp, on account of its cleanliness, freedom from smell, absence of danger, and other good qualities, if they only knew the best way of installing it in their dark-room without much expense. For occasional use in changing or developing plates it undoubtedly is most convenient, and there is no reason why it should not be employed for such purposes, even if we are dependent upon some form of battery for its maintenance. But the kinds of battery which are described in the text-books are legion, and it is difficult for one not well versed in the subject to choose between them. The first thing that must be understood is that one battery may be invaluable for a particular service, while it is quite unsuitable, and, indeed, useless for another. For instance, no battery is better for the ordinary electric bell, now so commonly used in houses, than the Leclanché. It will give sufficient current for a short period, but requires intervals of rest so that it may recover its original energy. This is just the treatment which it receives, the circuit being closed whenever the button is pressed, and being left open for the battery to recover itself between times. Where, on the other hand, the current must be a constant one, continuing over many hours, as in the case of electric deposition of copper, silver etc., the Leclanché form of battery would be useless, for it would soon cease to act. For this purpose we must use a Daniell or a Smee. Where, again, we want a current of great power to produce an arc light, we must have recourse to several Bunsen or Grove cells—that is to say, if we are dependent upon primary batteries. Secondary batteries will be considered later on. But for a single incandescent lamp such as would give sufficient light for the purpose already indicated, there are certain newer forms of battery which are far more convenient in use, and which do not give off acid fumes like some of those mentioned. One in particular may be mentioned as affording effective results with little trouble and expense—I mean Schanschiff's battery. It is a single fluid battery, and the charging of it merely means the emptying out of the spent liquid, and filling it up with fresh solution. The liquid is a preparation of mercury, but its exact composition has not been published. The battery can be kept ready for use, provided that the plates are lifted out of the solution when it is idle. Its electro-motive force is constant, it gives a very steady current, and its internal resistance is small. It is durable in use, and the replenishing solution is cheap. One charge of liquid is said to maintain a 2-candle glow lamp for eight hours. The annexed outline drawing shows the various parts of one form of Schanschiff's battery with small incandescent lamp attached. This is for miners' use, but it is obvious that, with one or two slight modifications, including a red screen for the light, it would be useful in a photographer's dark-room. At any rate, the drawing will serve

to indicate the positions of the battery elements, and the way in which they are raised out of the exciting liquid when the instrument is not in use.

The containing vessel A is of gutta-percha, and is divided by walls of the same material into three compartments, which form three distinct cells. The lid or top of this containing vessel, B, is made of hard wood, and fits closely into it. It has a handle, D, by which it can be readily carried about, and the glow-lamp bulb, F, is protected by a thick glass, E, which would be necessary to protect the fragile bulb from splinters of coal, etc., when the lamp was being used below ground. As there are three cells in this form of lamp, there are, of course, three sets of elements provided for them. These consist each of a stout rod of zinc; one only is visible in the drawing, and is marked Z, flanked on each side by a plate of carbon, C. One carbon plate is in each case a little narrower than its fellow, so as to accom-



modate itself to the triangular form of the cell in which it is placed. Returning to the upper part of the arrangement, G is a metal reflector, which half embraces the incandescent bulb, and greatly increases the light which it gives. It remains only to mention the manner in which the plates can be raised from their cells in order to throw the battery out of action. A metal vertical rod projects from the centre of the containing vessel, where the three partitions of the cells meet. It is not visible in the drawing, being hidden by the edge of one of the carbon plates. It is tapped with a screw thread at its lower part, and also at its top, so that the milled disc, H, will engage it in two different positions. One of these is where the plates are immersed in the liquid contents of the cells, and when, therefore, the lid can be securely screwed up, and the other position is that shown in the drawing, where the plates are raised from the cells and all electrical action ceases.

I have had another form of this battery in use for some time with satisfactory results. In this arrangement the plates are at one end of a long and closed receptacle, and the mere act of inverting the arrangement puts it into action. When it is required no longer, it is again turned upside down, the liquid leaves the plates, and the light is quenched.

One of the most useful forms of battery is the bichromate, but constancy of current must not be expected from it. It is a most handy form of battery for the laboratory, for it can be put into and out of action in a second. It gives off no fumes, and the solution employed is quite inexpensive. Its most common form is that of a bottle with a vulcanite top. From this top depend the plates, two of which are carbon, and fixed, while the zinc plate slides between them, and is fastened to a brass rod which projects through the lid. The exciting fluid is a saturated solution of bichromate of potash, made with hot water, with 20 per cent. of sulphuric acid added to it when cold. The addition of the acid causes the development of much heat, and the solution must be allowed to cool before it is poured into the bottle. There are several modifications of this form of battery which may be made very useful in the photographic dark-room; and where the amateur is possessed of sufficient ability to construct apparatus for himself, this is the kind of battery which he will have no difficulty in producing without outside help.

(To be continued.)

The Stereoscope.—II.

BY VALENTINE BLANCHARD.

THE increased facility of production furnished by the collodion process really gave the stereoscope its far-spread popularity, for the cost of the slides was at once reduced enormously. So rapid became the demand, and so eager the demand for novelty, that the energies of the first workers were severely tried. Photographers were sent to all parts of the world, and every building of historical importance or architectural beauty was made to lend its "counterfeit presentment" to show forth the wonders of Brewster's new instrument.

It will be interesting to many old photographers to know that T. R. Williams, so well known as the first photographic portraitist of his time, commenced his photographic career as a producer of daguerreotype slides. He began with still-life subjects, then so much in demand, and drifted into portraiture in furnishing novelties for the stereoscope. The portrait slides of Williams, Claudet, Mayall, and others were always to be seen at the Photographic Society's early exhibitions, but in the estimation of the photographers of that time the first place was taken by T. R. Williams.

Mr. W. England, who is fortunately still with us to give to modern workers the benefit of his varied experience, was also a large producer of daguerreotype slides, but he also was one of the first to take up the collodion process, for with practical eye he saw the importance of the increased facility of production furnished by it. After making a series of castles and abbeys in England, he went to America, and was fortunate in securing a picture of Blondin crossing the Niagara on the tight-rope. So little was known of the possibilities of photography thirty years ago, that when he sent a copy to the *Illustrated News* they refused to engrave it, fully believing it to be a hoax, and were vexed afterwards to find they had missed an opportunity. It will astonish many amateurs to know that his instantaneous street views of Paris for the stereoscope, taken about 1860, have never been surpassed, notwithstanding all the advantages offered by

the present method of working. An old photographic joke of this period in connection with his name may be mentioned here:—"Have you heard the news? England has taken Paris."

To satisfy the craving for novelty which marked the fever-point of what may now be called the stereoscopic craze tasked the ingenuity of the slide producers. The eager public were not content with the wonders of the world brought home to them to be looked at through the marvellous little instrument; they wanted the impossible, and made-up pictures. That is to say, copies of well-known sentimental pictures where painted backgrounds and dressed-up living models were employed to enact the drama or tell the story, became the rage. As a consequence we had "The Last Appeal," "The Prisoner's Release," and many other similar subjects, a long way after the originals by Frank Stone, Millais, and others, as may be very well imagined.

For a time domestic scenes became more in constant demand, and tea parties, dinner parties, weddings, christenings, etc., were to be seen in every shop window where slides were sold. The late Mr. Spooner, the well-known publisher in the Strand, told the writer some time ago, with some pride, that at the request of a popular manufacturer of slides he had consented to take the part of the clergyman in many of these scenes. Those who remember his genial Pickwick-like face will see the fitness of the selection. "Yes," said he, "few people who come to buy photographs know what a large business I have done in the marrying and christening line. Mr. — wanted so many negatives that for several days I did nothing else—one day marrying all day long, and next day christening all day long, till I was quite tired of the fun."

Elaborate historical scenes were attempted, and studios of immense size were erected to make them possible. An early riser passing Burlington House, now the home of the Royal Academy, was startled by an amazing and most unusual sight. In front of the house in Piccadilly adjoining old Burlington House was to be seen a horse suspended in mid-air between the glass-covered roof and the pavement below. Yes, a horse, but not a live horse, only a stuffed one, which was finally hauled with great difficulty through the open window of the studio above. We saw the horse under more favourable circumstances shortly after, doing duty under the weight of Joan of Arc armed cap-a-pie and surrounded by her followers. The patient animal bore many other riders besides the devoted Joan, and, to judge by its stolid expression, did not seem to mind the work.

It need scarcely be said that very few of these ambitious attempts at picture making could be regarded as successes. The self-consciousness of the models invariably spoiled even the best of them. They satisfied the whim of the time, however, and are now interesting curiosities.

French taste took a somewhat different form in the production of groups in the stereoscope. Small wax figures were carefully modelled, and whole scenes from operas were elaborately built up, and such subjects as the grave-yard scene from "Robert le Diable," and the Walpurgis Night from "Faust" startled and fascinated the eager buyers; for besides the immense number of figures employed the effect was heightened by high colouring both in front and back, for the paper photograph was made transparent by soaking in wax, and was mounted like glass transparencies. To still further increase the horror of the supernatural scenes, a cut-out moon, made sickly by backing with pale yellow gelatine, and picked-out lights for fires and reflections gave a lurid or a corpse-like hue, according to the colour of the gelatine employed for the desired effect. A supper party of skeletons will be probably remembered by many. Some of the subjects were very French indeed, and more need not be said here to de-

scribe them. It must be said of them all, however, that they were wonderfully carried out, and were far more complete as pictorial representations than the English productions with live models.

A notice of French productions would not be complete without mention of the glass transparencies of Ferrier, for these had a perfection that has been rarely equalled and certainly never surpassed. To describe the tone of a modern gelatine transparency we still say it is *nearly* the colour of a Ferrier slide.

In landscape and more especially instantaneous photography, Wilson, of Aberdeen, stood for years pre-eminent; but, as we shall have occasion to mention some of his methods of working when we come to the practical part of our subject, we need not dwell further on his work at this point.

(To be continued.)

How to be Photographed.

BY J. HUBERT.

In these days of keen competition, when the intending sitter cannot always feel sure that the photographs he may admire in a window or show-case are of the same quality as he could reasonably expect to obtain there—a great many dishonest men even going so far as to exhibit work not their own—it is a long-felt want to have some guide which will enable the sitter to make a suitable selection of the particular establishment which is most likely to give the greatest satisfaction.

The question of expense is, as a rule, an immediate attendant upon the desire to possess a work of art and a commemoration of pleasant hours spent in the company of dear friends, or reminiscences of scenes which but for photography would not even have left their shadow behind them.

There is not the least doubt that it is more than difficult to convince some people that it is quite possible to obtain the highest class of work at moderate prices. On the other hand, there are those, especially such whose friends practise as amateur photographers and communicate to them the cost of material, who think that cheapness is the desideratum which should, if not precede, at least have an equal share in the determination of their choice.

As a badly made dress of the finest material is a perpetual eyesore, so an inartistic photograph, made with the best chemicals and first-class instruments, is always distasteful. There are few dressmakers who fit well, and those who do so command a good price, how then can a photograph, which requires infinitely higher art, be executed at such prices as 3s. 6d. or 5s. 6d. per dozen?

Some folks often say that they would on *no account* go to such a cheap place, advertising 3s. 6d. per dozen, emphasising it by "What can you expect there?"

They go to the medium man at 5s. 6d. per dozen, and call the one who charges 7s. per dozen dear, but it stands to reason that photographs at less than 7s. per dozen in the suburbs, where rents are cheaper, and 10s. in the City and West End, where they are dearer, cannot be profitable enough to warrant special effort. It is quite certain that those who pin their faith upon the 5s. 6d. per dozen exponent might just as well go to the one whose prices are 3s. 6d. per dozen, and who more often than not exhibits other people's work as an inducement to get custom. But as the most expensive milliners are not at all times the best, so the dearest photographers are by no means always A1.

Upon whom then shall our choice fall? I say most emphatically the best *local* artist. Why so? Because such an one has the highest interest to serve those well who,

living in his neighbourhood, are a certain and continuing testimony to his skill, whereas the distant photographer seldom cares to take exceptional trouble with people whom he knows not, and may never again set eyes upon.

Furthermore, to make sure of the best man, look into his show-case. He will generally exhibit local men, who are well known to you. Examine the likeness, see whether the position is natural and the expression is life-like and pleasing. If he is established a good many years, so much the better.

If you are a stranger, and cannot trust your own judgment, ask not one, but *several* neighbours, who the best photographer may be. Although every successful man makes some enemies, the voice of the majority cannot be far wrong.

Having determined where to go, it will be well to make sure what atmospheric conditions suit our purpose best. Do not entirely trust the man who advertises "Weather no object. All photographs taken instantaneously." He may be the one who would take your money, but *little* trouble forsooth.

If it is at all within the range of possibilities, the sitter should come in the morning, not because it is impossible to be photographed in the afternoon, but he generally feels in a better mood then. His or her daily cares have not as yet stamped their impress upon the brow, that should be particularly fresh, and free from pain of any sort, to be in the best condition for what some unnecessarily think a trying ordeal. Moreover, the morning light is better than that later in the afternoon, which, although it may look precisely the same to the untrained eye, is not nearly so rich in those rays which form the photographic image, it being well known by spectral analysis that the bright-coloured yellow or red rays are the least useful for the purpose of photography. For instance, the ordinary observer sometimes reasonably imagines that when the sun just begins to set it is still light enough for the (*rapid*) drawing by means of light, which is the meaning of photography, but the scientific observer notes the peculiar yellow or redness of the luminant, and finds also that the light which reaches us through the medium of a fog is of the same yellow colour, inactive to photographic chemicals. The beautiful colours of the rainbow, so familiar to us, afford a striking example, to convey the meaning of the spectrum to those who are not acquainted therewith, because the light of the sun in its passage to our orb passes through one mass of great prisms, composed of rain-drops, which serve to subdivide the white light of Mother Sol into its constituent rays, so forming what are called the colours of the spectrum, the principal of which are blue, green, yellow, and red.

This range of colours, with its intermediate tints, is the same as that thrown on to the opposite wall of a darkened chamber, on the one side of which a hole is made to admit a ray of sunlight, which in turn is made to pass through a triangular-shaped piece of cut glass, called a prism; this, if photographed upon a sensitive plate placed into its focus, will prove that the yellow, orange, or red colours have left no impress on the film, whereas the violet and blue show a very marked blackening, from which fact it will be seen why these latter are termed chemically actinic rays. This explains also how it is that a yellow, orange, or green dress photographs a dark shade, and a violet or blue one appears light.

A clear, rainy morning, with light clouds without sunshine (unaccompanied by fog, however), is most suitable for photography, because, as will be manifest to the thoughtful, the rain acts somewhat like a condensing lens; instead of obstructing, it rather intensifies the light. Were it, therefore, not for the drawback of soiling one's attire (which, however, can be obviated by employing one of the multi-

tinuous conveyances plying everywhere in the metropolis and suburbs), such a rainy day is often better than one on which the sun gratifies us with one of its rare and uncertain visits; that is, if we can contrive to banish the weather clouds which are usually exhibited by sympathetic men or women, when the skies are weeping.

Again, the morning is best for babies and children, who, after a refreshing sleep, may be said to be in first-class condition to be operated upon at a time when the brightness of the light permits of a very short exposure.

I carefully avoid the hackneyed and misleading expression instantaneous, for any honest and scientific photographer knows that instantaneous photographs cannot be taken in an art studio (although they may be taken by the instantaneous process), but bringing babies, young children, old people, and invalids in the morning, the time of exposure—thanks to latter years' improvements—is reduced to half, one, or two seconds, whilst with the most artistically lighted cabinet and whole-plate portraits, four to six seconds' duration is seldom exceeded.

Through non-observance, or the dexterity of the artist, this time is not generally distinguished, and thus it comes that the word instantaneous is totally misunderstood.

At first sight it may seem superfluous to acquaint the customer with the niceties of the distinction, but when the photographer is confronted with such exclamations, by a sitter entering the studio during a fog, as, "But, Mr. Camera, I thought you practised the instantaneous process, and the weather is immaterial," it becomes imperative to analyse the meaning of the word. Pictures practically taken instantaneously are open-air productions, secured, for the most part, during sunshine or by artificial light, with which the writer has made such experiments as to be able with certainty to take fairly good instantaneous photographs. At present he cannot, however, for various reasons, advise the process unless daylight is quite unavailable, in which latter case it is indeed a good thing when done by a *specialist*, which the writer professes to be, having a method of his own with which he produces work which could not be distinguished from good daylight. When the sky is overcast with white clouds the light is better than on a sunny day with a clear blue firmament, because the illumination of earthly objects is principally caused by reflected light of the sky, hence it follows that the white cloud reflection is more powerful than the blue sky (always, of course, considering studio portraiture). For similar reasons, the light is good when the snow lies on the ground. There is another most important reason why people who can possibly do so should choose the morning, it being the photographer's least busy time. Waiting irritates, which is detrimental to a good expression. To avoid which delay it is advisable to make appointments with the artist.

The question of dress, which I have purposely left to the last, claims our serious attention.

First of all, it is exceedingly unwise to be attired in a totally different style to what we are accustomed to, which is especially noticeable with regard to ladies' headgear, which alters the likeness even sometimes.

A well-fitting dress is a great advantage, but it really matters not of what colour it may consist, unless the sitter requires a speciality. A white or delicate cream-coloured dress in the hands of an artist gives a splendid effect, the gradation of light and shade looking particularly beautiful, besides facilitating the production of a harmonious picture. With children, white or pale cream dresses are the best in all cases.

It must not be imagined, however, that the dress need be newly washed and starched. A soiled one is to be preferred, and is never a drawback unless excessively creasy.

It should be noted that a pale complexion is intensified by the contrast of a dark attire. White or delicate hues are always suitable for pale complexions. It has been mentioned that green, yellow, orange, or red stuffs come out either a lighter or deeper black, according to the above order.

With this knowledge then it is easy to blend colours to attain any desired contrast. Thus gold or yellow coloured ornaments show little upon a dark-ground; the same can be said of silver upon a white one. Red hair should be powdered, or else will photograph abnormally dark.

When it is absolutely requisite or desirable to possess a photograph which will render colours more correctly—such as we see in nature—that is, the yellow of a lighter shade than blue—that may be done if the photographer is made acquainted with the wish. The author does not think it an advantage at the present to use the process exclusively, because the kind of plates he prefers for studio work are not so prepared, besides other difficulties standing in the way.

In conclusion a few other hints may not be unacceptable, and it can be taken as a maxim that a person compelled to wear spectacles should not take them off when photographed, as the result would be unlike in consequence of the altered focus of the pupil of the eye.

Babies should never be brought late in the afternoon. They are generally at their best after a refreshing sleep. As a rule, fathers should not bring young children, as they are very apt to become impatient, and lose their temper with them.

It is essential that mothers should leave all arrangements to the artist, as if such an one is what he professes to be, he will be able to manage the baby or young child, for the time being, better than the best of mothers.

The mother or attendant should in *no case*, as is done in most instances, take in hand or play (for children's amusement) with any of the toys found in the studio, as the photographer uses them as a valuable reserve to gain the attention of the little one. For if the child is once allowed to see or play with them they are entirely useless for the photographer's purpose.

It is also very important indeed that the attendant abstain from giving any directions or advice of any sort to the child whilst in the operating room, for in almost every case the child will be found to do exactly the opposite of what it is told, or follow the advice in an exaggerated degree, pressing its lips tightly together when asked to shut its mouth, and so forth; therefore the child must never be coerced into anything. It should not even be persuaded to sit quite still when in the studio, for as soon as a child endeavours consciously to follow such instructions, all natural grace is gone.

In consideration of the state of unrest in which children generally are found when in an animated or expressive position, it will be evident that to obtain works of art in that branch the artist must not be limited to prices which only admit of the expenditure of one plate and certainly do not provide for the often necessary jumping, barking, laughing, singing, and conjuring performances to be gone through by a photographer, whose aim it is (if he has received a thorough art training) not alone to please his customers but to satisfy his ambition, without which no man ever dares to hope for certainty to take satisfactory photographs in this progressive age of ours. There are, unfortunately, some customers whom the local photographer can never hope to attract to his studio, viz., those aspiring but not really belonging to the highest society. That particular class require the West End trade mark on the back of their cartes, scorning to go outside that locality,

even though the local artist may execute the best work. This is, however, somewhat compensated for by the patronage of the few of the élite of society, who can afford to visit the local establishment without loss to their dignity.

Our Contemporaries at Home and Abroad.

THE *Photographic Times* (New York) gives the following amongst others of Mr. Cramer's formulæ:—

"EIKONOGEN DEVELOPER.

No. 1.

Distilled water ..	40 ozs.	1,000 c.c.m.
Sulphite of sodium crystals ..	2 "	50 "
Eikonogen, finely powdered ..	1 oz.	25 grammes.

Keep the solution in a well stoppered bottle.

No. 2.

Water ..	10 ozs.	300 c.c.m.
Carbonate of potassium ..	1 oz.	30 grammes.

No. 3.

Water ..	10 ozs.	300 c.c.m.
Bromide of potassium ..	1 oz.	30 grammes.

For Use.

Solution No. 1 ..	3 ozs.	120 c.c.m.
Solution No. 2 ..	1 oz.	40 "
Solution No. 3 ..	.6 to 12 } minims (or drops)	$\frac{1}{2}$ to 1 c.c.m.

When the developer is quite new, it will be found necessary to add a little bromide solution (No. 3) in order to make it work perfectly clear. The addition of old developer will answer the same purpose. The developer can be used repeatedly by occasionally adding more of solutions Nos. 1 and 2, omitting the bromide. It produces plenty of intensity by simply leaving the plate in it long enough. Any degree of softness can be obtained by diluting with more or less water, which is also recommended during hot weather and for under-exposures. Over-exposed plates restrain by adding more solution No. 3. The following fixing formula is especially recommended:

Water ..	1 quart	1 litre.
Sulphate of sodium crystals ..	4 ozs.	120 grammes.

After being dissolved, add

Sulphuric acid ..	$\frac{1}{2}$ oz.	15 c.c.m.
Chrome alum, powdered ..	3 ozs.	90 grammes.

Dissolve, and pour this into a solution of

Hyposulphite of soda ..	2 lbs.	1 kilo.
Water ..	3 quarts.	3 litres.

This bath combines the following advantages:—It remains clear after frequent use, it does not discolour the negatives, and forms no precipitate upon them. It also hardens the gelatine to such a degree that the negatives can be washed in warm water, provided they have been left in the bath a sufficient time. The plate should be allowed to remain in the bath five to ten minutes after the bromide of silver appears to have been dissolved. The permanency of the negative and freedom from stain, as well as the hardening of the film, depend upon this." Articles: "A Photographic Trip in the Torrid Zone," "Orthochromatic Photography," "Origins and Progresses of Photo-Engraving," "Living Organisms as Photographic Negatives," etc.

Wilson's Photographic Magazine (New York) says, "If the invention of Mr. W. J. Norton, of Pittsburg, fulfils its promise, says the *Chicago Journal of Commerce*, there is a dangerous rival of the electric light in the field, if not of petroleum. He has invented what is alleged to be the cheapest light ever known, and yet 'a light as intense and as accurate in its illuminations of colours as the sun at noonday.' It is claimed that 500-candle power light of the kind in question can be run at the nominal cost of 1 cent an hour. Mr. Norton has for years been engaged in developing this light. The undertaking has been very quietly conducted. Recently he permitted a few capitalists from Beaver County to witness experiments with his device. These tests proved so successful that a temporary and private company was

soon formed to patent and develop the brilliant idea. The light in question is essentially a chemical discovery rather than a mechanical idea, and consists of a peculiar tape that is fed by a simple clockwork. While it is peculiarly adapted to street or other stationary purposes of illumination, yet it is said to be also applicable to portable or hand-lamps; and in point of intensity it is not surpassed by electricity, its light is much softer, and far easier to the eyes. It feeds itself, requires neither pipes, wires, or other connections, and in size may be produced from 300 to 7,000 candle-power. It is absolutely non-explosive, emits no smoke or objectionable vapour, is applicable to any purpose, and can be handled with an equal safety by a child as by an adult. We should imagine this light will open up new possibilities in our art." Articles: "Group Photography," "The Screen Plate for Phototypography or Zinc Etching," "Practical Points for the Studios," "Facts and Fancies," etc.

Anthony's Photographic Bulletin (New York) says, "Last week it gave us pleasure to note a matter of photo-historical interest to ourselves, and one which we think will be of equal pleasure to our readers, regarding Daguerre. On the occasion of a farewell dinner which was given to Colonel Gouraud, who was about to return to England, carrying with him General Sherman's reply to the speech of the 'Grand Old Man,' Gladstone, to bring which to this country was one of the main objects of his coming, Colonel Gouraud took occasion to refer to photography, and stated that at the time of the discovery by Daguerre, he (Daguerre) and Colonel Gouraud's father were intimate business friends, the former in France and the latter in America; that Daguerre sent to the elder Gouraud the first instrument for making daguerreotypes which ever came to America, and the first picture ever made with the instrument, and consequently the first daguerreotype made in this country was made by him, and the sitter was his wife and the mother of the speaker, who further stated that the picture was still in existence, and naturally highly prized by his family." Articles: "Albumen Paper and the Tariff," "On the Development of Gelatine Dry Plates," "Preserving Ferrous Oxalate Developer," "Addition of Formaldehyde-Bisulphite of Soda to the Gelatine Emulsion and to the Developer, etc."

BRIXTON AND CLAPHAM CAMERA CLUB.—At the meeting of the Club to be held to-night (Friday), a paper will be read by Mr. J. Gale, entitled, "Photography as a Pastime." The paper will be illustrated by a selection of his well-known slides, shown by the oxy-hydrogen lime-light. Visitors are invited.

HOLMFIRTH AM: PHOT: SOC:—Mr. J. Roberts, of 1, Victoria Square, Holmfirth, writes us:—"We are reorganising the Amateur Society in this town. I shall be greatly obliged if you will kindly make it known through the medium of your valuable paper that anyone who may feel disposed to join us, if they will communicate with me can have all particulars."

GOVERNMENT RECOGNITION OF ZOOLOGICAL PHOTOGRAPHY.—The British Museum (South Kensington) authorities have just ordered a large number of the animal studies from life, and skeleton series, taken by Mr. Gambier Bolton, F.Z.S. (of the Camera Club) to be framed and hung in the galleries of the Zoological Section. This is believed to be one of the first instances on record, and shows that photography is slowly, but surely, making its way upward in the scientific world.

CAMERA CLUB.—On Thursday, May 8th, there was a special lantern-slide exhibition at the Camera Club, photographs taken on recent tours in Egypt being shown by Messrs. Rodgers, A. Collins, and Major Nott. Amongst the transparencies were many of excellent quality, and the collection contained a great variety of interesting illustrations of present life and manners in Egypt, with original views of the Pyramids and other remains and public buildings. Mr. Elder exhibited a large number of photographs recently taken in Madeira and Tenerife, Mr. Andree gave some interesting views of volcanoes in action and other subjects, Mr. Ferrero landscapes taken on club excursions, and Mr. Crookes some charming pictures of Ightham Moat-house; other slides by Messrs. FitzPayne, Carnell, and Sands were exhibited. On Thursday, May 22nd, Mr. Shipton will read a paper on "Cyclo-Photography—Some Recent Developments, including an Ideal Cycle."

Science Notes.

At the meeting of the Royal Microscopical Society, on April 16th, Mr. J. Mayall, jun., exhibited a spiral ruling on glass, sent by Mr. P. Braham, of Bath, which had been produced in an ordinary lathe, the diamond point being adjusted on the slide-rest. A series of photo-micrographs, by Mr. T. Comber, were of special interest, since they had been produced by the aid of sunlight, by which the maximum resolving power of the objective is obtained.

The grand 26-inch refracting telescope, one of the largest in the world, bequeathed by the late Mr. Newall to the University of Cambridge, was of doubtful use without funds for its maintenance. The difficulty has been solved by the son of the donor, Mr. H. F. Newall, of Trinity College, volunteering his services as observer, and also finding the necessary money, £500 for initial expenses, and £200 per annum for five years. We trust the Newall telescope will prove a worthy rival to its great 36-inch brother, the Lick telescope, in California.

The Photographic Society of France has lost its President, the distinguished chemist, M. Eugène Peligot, who was seventy-eight years of age. He had been attached to the French Mint for over forty years, and was a pupil of Dumas.

A contributor to the *English Mechanic* writes that he found his gas-bags leak, but could not detect the points at which the gases escaped. At last he filled the bags with water, and suspended them. He then found that the material of which the bags were made gradually became wet all over, showing that the leakage was general. Either those bags had worn very evenly or they were made of poor stuff to begin with.

At the meeting of the Linnæan Society, on May 1st, Mr. Sherring exhibited a series of excellent photographs which he had taken near Falmouth, and which showed the effects of climatic influence on the growth of several subtropical and rare plants cultivated in the open air.

It is reported that the Benchers are about to remove or rebuild, or do something in the iconoclastic style, to the fine old gateway of Lincoln's Inn. The *Athenæum* says that "the Inn is unfortunately rich just at present, and Lord Grimthorpe, having pretty well destroyed everything of historical interest at St. Albans, is longing to destroy some other relic of the past, and display his incompetence as an amateur architect." Well, we trust that some "amateur" photographers will see that a good record of the gateway is ("negatively") preserved.

A small committee of those most interested in the work of Alfred Stevens are about to issue a volume (Autotype Company) which will contain about sixty photographs of his principal works. Mr. Holford has given facilities for photographing the chief works by Stevens at Dorchester House; and the Marquise de Santurce, the drawing-room of whose house in Kensington Palace Gardens contains ten fine figure-paintings by Alfred Stevens, has been equally courteous.

The *Graphic* for May 10th contains an illustration of a group of slave girls recently captured at Cairo. The picture is from "a negative of a photograph" sent to England by the English matron of the home to which the girls were brought. This voucher for the truth doubles one's interest in examining the illustration.

On April 26th, a fine poplar standing near the village of Playford, in Suffolk, was struck by lightning, and portions of the branches, bark, etc., were spread over a space of two acres! The tree was "completely barked all round, with one half literally riven into fibre, leaving the other half of the trunk a whitened stem, still standing as a forty-feet shaft to be seen a mile away." We trust that some photographic records of this effect of electricity have been, or will be, secured. We believe the spot is not far from Ipswich.

The Smithsonian Institution has had two plates prepared, containing nine photographs of the total eclipse of the sun on the 1st of January, 1889, and distributed them among astronomers.

F. G. S.

Notes from the Liverpool Centre.

(By our District Editor.)

A BREAK in the weather rather interfered with the out-door excursion arranged for in this meridian last Saturday. Still, both the Wallasey Society and the Formby Society turned out, and their errand was not fruitless. Each contingent visited the Manchester Ship Canal works at Eastham, but here they were interfered with by the resident authorities of the Canal works, who strongly objected to the photographer and all his belongings. A special permit had been secured from head-quarters in Cottonopolis to "inspect" the Canal works, but it was contended that "inspect" did not mean or include "photograph;" in fact, orders had been given that photographers were to be warned off. It would puzzle half-a-dozen Philadelphian lawyers to explain how cameras and lenses can injure the great waste of earth and masonry in question; but in future prospecting photographic parties who intend operating on the Ship Canal will do well to remember last Saturday's objections.

The Liverpool exhibits, shown first at the Crystal Palace and afterwards at Newcastle-on-Tyne, are expected home this week, and will be hung for inspection in the Liverpool Association's rooms, Lord Street. The subject for practical demonstration last night, Wednesday, was "Silver Printing and Toning," by Mr. H. H. Williams. Applications for space in the exhibition next year are, I hear, very numerous. Mr. Paul Lange, at the late Golf Tournament, Hoylake, Cheshire, got ten excellent pictures of several of the leading players "in action." During last week the results were seen by several hundred golfers, who pronounced them the finest yet produced. Certainly Mr. Lange was most successful with his "lightning" shots.

Lancaster Photographic Society.—The late "lantern night" was attended by upwards of sixty members and friends. Mr. H. L. Storey presided, and announced the nomination of six new members. Fifty-six slides made on Alpha lantern plates, lent by the Britannia Works Company, Ilford, and slides by members and friends were shown by Mr. J. W. Pickard. Mr. H. J. J. Thompson and Mr. S. Fawcett brought slides made from negatives taken with the Kodak camera; Mr. Ransome, views of Lancaster taken thirty years ago by the collodio-albumen dry-plates and calotype or paper negatives. Messrs. Jumeaux and Dargue also contributed. As a whole, the assortment of slides was excellent; technical work, very good. A "Field Day" is to be held on Whit Monday, when it is hoped that the Lancaster and Kendal Societies will go out in company.

Walton Photographic Society.—On Wednesday, the 7th inst., the Society held their ordinary monthly meeting, the President, Mr. H. E. Burn, in the chair. Messrs. Charles Henry Bennett and M. Mawer were elected to membership. Subsequently Mr. Frank Vaughan's paper, "Photo-zincography," was attentively listened to and his demonstrations closely followed. At the next meeting, on June 4th, an exhibition of hand-cameras, with a discussion thereon, is to take place. At this exhibition Messrs. G. Latimer and Sharrock, both members of the Walton Society, will show hand-cameras of their own invention. I am given to understand that each apparatus is very ingenious.

The Liverpool University College Photographic Society is resting for the next four months. The members are photographers more as a matter of science and research than of pleasure. They have done valuable technical work since the organisation came into being. Dr. C. A. Kohn, the President, is uncommonly clever and experienced.

ADDRESS WANTED.—Will "Q," in "Answers and Queries," please forward us his address, as we have letters for him?

THE "FACILE" CAMERA.—In our notice we quite neglected to draw attention to the fact that the new sheaths are the invention of Mr. Frank Miall, and that he has secured them by Royal Letters Patent. Mr. Miall has spent much time in the perfecting of these sheaths, and it is only fair that he should have the credit due to him.

EXHIBITION OF THE GUILDFORD ART ASSOCIATION.—Mr. T. W. Brownrigg writes us, and says that "in your report it is stated one of the exhibitors was favourably commended, but while it is mentioned that I am exhibitor, the fact that I got first prize, the silver medal, is omitted, and also that Mr. Wainwright got the bronze medal."

A NEW SOCIETY.—Mr. Isaac Cohen, of 26, Wendover Road, Harlesden, N.W., writes us:—"I am desirous of forming a photographic society for Harlesden and district, and should be glad to know of any gentlemen who would communicate with me and assist in forming the same. I should be pleased if you will give this publicity in your next issue."

Birmingham Photographic Society.

A MEETING of the above Society was held in the Club-room at the Colonnade Hotel, New Street, on Thursday evening, May 8th; Alderman J. B. Stone, J.P., F.L.S., F.G.S., in the chair. There was a large attendance of members. Eight new members were elected. A letter from the Secretary of the Camera Club was read, enclosing a copy of their new rules for exhibitions. The Curator of the Municipal Art Gallery (Mr. Whitworth Wallis) sent a communication acknowledging the receipt of the National Challenge Cup (won by the Birmingham Society at the Crystal Palace Photographic Exhibition in March last), and asking for examples of the pictures which won the cup, to be exhibited with it in the Art Gallery. A vote of thanks was passed to Dr. P. H. Emerson for a copy of his valuable work on "East Anglian Life," which he had presented to the Society's library.

THE PHOTOGRAPHIC SURVEY OF WARWICKSHIRE.

At the close of the ordinary business, Mr. Stone announced that the meeting had been called especially to discuss the proposed photographic survey of Warwickshire. He said—

"We are assembled here upon a matter of very considerable interest, which has now reached a point when it is important to ask your very serious consideration as to what course is to be pursued. I take it for granted that every member of this Society is deeply interested in this proposed photographic county survey. Every one, I suppose, desires its success; every one also, I apprehend, is fully alive to the fact that there are difficulties to be overcome. If everyone is prepared to render assistance to get rid of these difficulties, depend upon it they will easily melt away; if we were to give way to the difficulties of the world, we should never accomplish anything. Reverting to my first observation as to its being a critical moment in the proceedings, you are called upon to-night to decide whether this survey shall be a success or otherwise. There are two distinct ways in which you can deal with the matter; one is by taking it in hand yourselves, and setting to work out the whole problem, taking credit for the result of your labours, keeping the control of the whole undertaking, and carrying it out within your own limits. That you are perfectly justified in doing, if you so desire. If you take this view, it will be your duty to set about a scheme within your own means and within your own numbers. This, of course, is simply within the range of any society; in other words, any society has a perfect right—indeed, you may go further and say that any single individual has a perfect right, who can command means, of doing within his own scope something towards obtaining the same object that you have in view. As a society you may succeed more or less, but such proceedings within yourselves, would not be sufficiently large, I apprehend, to correspond with the scale you have already contemplated.

"You have at this moment an opportunity to distinguish yourselves as a Society, because you have hit upon a brilliant idea which all the world is prepared to give you credit for; and that idea worked out will be not only for your good reputation, but will be a beneficial example to the whole country. If you take a good lead you will be followed by others, and if you take a narrow view, and you permit jealousies to exist amongst yourselves or in respect to other people, you will damage the whole thing, you will earn a bad reputation, and in point of fact you might make yourselves ridiculous. If you can decide upon broader lines, which I recommend, you will at once offer to the whole world a good idea, and appeal to the co-operation of everyone interested in it to contribute towards its success. For this you must go outside your own Society.

"It appears to me that if you do (and I hope you will) you will obtain considerable support, pecuniary and otherwise, from the county generally. You must present to the public a broad scheme that will invite confidence and that will attract support.

"You cannot propose any kind of council or committee limited to yourselves; you must begin by proposing a representative council for the photographic survey, and must state frankly that you are prepared to send representative members, and to render every assistance. There would be, of course, elected representatives from other districts and other societies; and I suggest also co-optative members, useful to you in many ways, and men sufficiently known to ensure the confidence of the city of Birmingham and the county generally. Then depend upon it

your projects will succeed, and you may almost believe that your scheme is an accomplished fact."

Mr. W. Jerome Harrison, F.G.S. (Vice-President), said he had listened with great pleasure to the very able speech made by Mr. Alderman Stone, with which he was in the main agreed. Their President advocated the establishment of a County Council or Committee, by which the photographic survey of Warwickshire should be directed; and, considering that there were several photographic as well as many scientific, artistic, and literary societies in the county, he agreed that such a guiding body was desirable. Such a Council should consist of representatives of all the societies willing to promote the work of the photographic survey. It was not less the duty than the right of each society to aid in carrying out and completing so desirable a task. But he (Mr. Harrison) did not think that it was necessary that their own Birmingham Society should sink their identity with the task they had resolved (at a previous meeting on December 11th) to undertake. The Council of the Birmingham Photographic Society had been carefully considering the question, and they had unanimously passed the following resolution:—"That it is desirable to form a Photographic Survey Section of the Birmingham Photographic Society, with separate officers and a separate subscription, to commence and carry out a photographic survey of Warwickshire." He trusted that the meeting would endorse that resolution, and that everyone in the room would join the Survey Section which it was proposed to form. The section could then invite the co-operation of other workers in the county, and form the county council to which Mr. Stone had alluded, by which the work to be done by each Society should be pointed out. As there would necessarily be certain expenses incurred, it would be needful to charge a small extra subscription to the section. He hoped they would also invite gentlemen to join the survey section who, though not photographers, felt an interest in the work, and for them the subscription should be somewhat higher. Such gentlemen could thus join the survey, and assist in its work, without becoming members of the photographic society. He trusted that the meeting would first discuss the resolution from the Council which had been read, recommending the establishment of a Photo-Survey Section of the Birmingham Photographic Society; after which the consideration of the county council, as urged by Mr. Stone, would naturally follow.

On the motion of Mr. B. Karleese, which was seconded by Mr. S. G. Mason, the resolution referred to by Mr. Harrison was carried unanimously and with much applause.

It was then resolved "That the subscription to the Photo-Survey Section shall be half-a-crown per annum for members of the Birmingham Photographic Society; and half-a-guinea per annum for all others."

Thirty-eight gentlemen then gave in their names as members of the new section.

The officers of the section were elected as follows:—Chairman, Mr. J. B. Stone; Vice-Chairman, Jethro Cossins, Esq.; Curator, Mr. B. Karleese; Treasurer, Mr. S. G. Mason; Hon. Secretaries, Messrs. J. H. Pickard and W. Jerome Harrison.

The question of a governing body to direct the general work of the survey was next considered. The following resolutions were then passed:—(1) "That the Council should consist of representatives elected by the various photographic and scientific societies of Warwickshire, with co-optative members who may be of service in developing or aiding the work of the survey."

(2) "That the photographic, artistic, scientific, and literary societies of Warwickshire be invited to send representatives to a general meeting on May 22nd at St. Edmund's College, Edmund Street, Birmingham, for the purpose of electing a Council to direct the Photographic Survey of Warwickshire."

It was decided that the members of the Birmingham Photographic Section should meet on Tuesday evenings at the Club Rooms, to discuss the work of the survey.

PHOTOGRAPHIC SOCIETY FOR CAMBRIDGE. — An adjourned meeting was held on the 7th inst., Mr. F. H. Sanderson in the chair. The rules as drafted by the *pro tem.* committee were discussed, and, with slight alterations, adopted. The election of officers then took place, with the following result:—President, Mr. F. Morley; Hon. Treasurer and Secretary, Mr. F. E. Brown; Committee, Messrs. F. H. Sanderson, S. S. Beall, G. H. Potts, and D. Greenwood. It was decided that the Association should be called the Cambridge Camera Club, and that persons joining on or before the 1st June will be exempt from entrance fees.

Register of Dark-Rooms, 1890.

THE following "Dark-Rooms" have been placed at our disposal.

We class them in four divisions, *i.e.*, *a* amateur, *d* dealer or professional, *h* hotel, and *s* photographic society.

In our letter of introduction full particulars are given as to owner, address, charges (if any); plates, chemicals, etc., kept by dealers; terms for temporary membership of societies; hotels; distance from station, etc., etc.

Every application for letter of introduction must be accompanied by SIX PENNY STAMPS. The owner of "Dark-Room" will be advised by same post as the applicant.

<i>d</i> Aberdeen	<i>a</i> Chipping Norton	<i>a</i> Frodsham
<i>d</i> Aberystwith	<i>a</i> Cinderford	<i>a</i> Galashiels, N.B.
<i>d</i> Addingham	<i>a</i> London, W.C.	<i>a</i> Galston, N.B.
<i>d</i> Amble	<i>d</i> Cirencester	<i>d</i> Glasgow
<i>d</i> Andover	<i>s</i> Cleckheaton	<i>d</i> Glasgow
<i>a</i> Aylesbury	<i>d</i> Clevedon	<i>s</i> Glasgow
	<i>d</i> Clifton	<i>d</i> Gloucester
<i>d</i> Barmouth	<i>a</i> Clitheroe	<i>a</i> Goring
<i>a</i> Barnsley	<i>d</i> Colchester	<i>a</i> Gravesend
<i>d</i> Bath	<i>d</i> Colchester	<i>d</i> Great Yarmouth
<i>s</i> Bath	<i>h</i> Colnbrook	
<i>h</i> Beaconsfield	<i>a</i> Coniston	<i>a</i> Halifax
<i>a</i> Bedford	<i>d</i> Crewe	<i>d</i> Handsworth
<i>d</i> Belfast	<i>d</i> Crewkerne	<i>a</i> Hanley
<i>d</i> Bergen, Norway	<i>d</i> Croydon	<i>d</i> Harrogate
<i>d</i> Berlin, Germany		<i>d</i> Hastings
<i>h</i> Bex, Switzerland	<i>a</i> Dalton-in-Furness	<i>h</i> Hastings
<i>d</i> Birmington-on-Sea	<i>d</i> Darlington	<i>s</i> Havant
<i>a</i> Birmingham	<i>d</i> Darlington	<i>d</i> Hereford
<i>d</i> Birmingham	<i>h</i> Dartmouth	<i>d</i> Hexham
<i>s</i> Birmingham	<i>d</i> Derby	<i>h</i> Holbeach
<i>h</i> Bodiam	<i>a</i> Devizes	<i>h</i> Huddersfield
<i>d</i> Bodmin	<i>a</i> Doncaster	<i>a</i> Hull
<i>h</i> Boro' Bridge	<i>d</i> Douglas, Isle of Man	<i>d</i> Hull
<i>d</i> Bournemouth	<i>a</i> Douglas, Isle of Man	<i>d</i> Ilfracombe
<i>d</i> Bournemouth	<i>d</i> Douglas, Isle of Man	<i>d</i> Ipswich
<i>d</i> Bradford	<i>d</i> Dover	<i>s</i> Ipswich
<i>d</i> Bradford	<i>d</i> Dublin	<i>d</i> Jarrow
<i>d</i> Bradford	<i>d</i> Dublin	<i>d</i> Jersey
<i>d</i> Bramley, near Leeds	<i>d</i> Dublin	
<i>h</i> Brechin, N.B.	<i>h</i> Dunblane, N.B.	<i>d</i> Keighley
<i>d</i> Brechin, N.B.	<i>d</i> Dundee	<i>s</i> Keighley
<i>d</i> Bridlington Quay	<i>s</i> Dundee	<i>a</i> Kendal
<i>d</i> Bridlington Quay	<i>a</i> Dungarvan	<i>s</i> Kimberley
<i>h</i> Brigg	<i>a</i> Duns	<i>d</i> King's Lynn
<i>d</i> Brighton, Hove	<i>d</i> Durham	<i>a</i> Kingstown, Dublin
<i>h</i> Brighton		
<i>d</i> Brighton	<i>h</i> East Grinstead	<i>d</i> Lancaster
<i>d</i> Bristol	<i>h</i> Ebbw Vale	<i>d</i> Lancaster
<i>d</i> Bristol	<i>d</i> Edinburgh	<i>d</i> Larne
<i>d</i> Bristol	<i>d</i> Edinburgh	<i>d</i> Leamington
<i>h</i> Broadway, Worcester	<i>d</i> Edinburgh	<i>h</i> Ledbury
<i>d</i> Bromley	<i>d</i> Edinburgh	<i>d</i> Leeds
<i>h</i> Brough	<i>s</i> Egremont	<i>d</i> Leeds
<i>d</i> Burnley	<i>a</i> Enfield Town	<i>a</i> Leeds
<i>s</i> Burnley	<i>a</i> Evesham	<i>d</i> Leicester
<i>d</i> Burslem	<i>d</i> Evesham	<i>d</i> Leicester
	<i>d</i> Exeter	<i>a</i> Leicester
<i>a</i> Cadiz, Spain		<i>a</i> Leicester
<i>h</i> Callender, N.B.	<i>s</i> Falkirk	<i>a</i> Leicester
<i>h</i> Camborne	<i>d</i> Falmouth	<i>a</i> Lenzie, N.B.
<i>d</i> Cambridge	<i>d</i> Faversham	<i>d</i> Lincoln
<i>h</i> Cambridge	<i>d</i> Felixstowe	<i>d</i> Liverpool
<i>h</i> Capel-Curig, N.W.	<i>d</i> Finchley	<i>d</i> Liverpool
<i>a</i> Chalfont St. Peter	<i>h</i> Fochabers, N.B.	<i>s</i> Liverpool
<i>d</i> Cheltenham	<i>d</i> Folkestone	<i>d</i> Llandudno
<i>d</i> Chepstow	<i>a</i> Four Ashes, near Enville	<i>h</i> Llandidloes
<i>d</i> Chester		<i>a</i> London, Chelsea
<i>d</i> Chester		
<i>a</i> Chesterfield		

<i>d</i> London, E.C.	<i>h</i> Paisley, N.B.	<i>a</i> Stoney Stratford
<i>d</i> London, E.C.	<i>d</i> Penrith	<i>a</i> Stourbridge
<i>d</i> London, E.C.	<i>d</i> Penzance	<i>d</i> Stourbridge
<i>d</i> London, Highgate	<i>d</i> Pershore	<i>d</i> Stratford-on-Avon
<i>d</i> London, New Cross	<i>a</i> Perth	<i>h</i> Stratford-on-Avon
<i>d</i> London, S.E.	<i>a</i> Pickering	
<i>d</i> London, S.E.	<i>h</i> Port Erin, Isle of Man	<i>d</i> Stroud
<i>d</i> London, S.E.		<i>h</i> Sudbury, Suffolk
<i>a</i> Long Eaton	<i>d</i> Reading	<i>d</i> Sunderland
<i>h</i> Long Melford	<i>h</i> Redcar	<i>d</i> Swindon
<i>a</i> Louth	<i>h</i> Redditch	
<i>a</i> Louth	<i>d</i> Richmond, Surrey	<i>d</i> Taunton
<i>a</i> Ludlow	<i>a</i> Ringwood, Hants	<i>a</i> Tavistock
<i>d</i> Lynn	<i>d</i> Rochdale	<i>a</i> Tenby
<i>a</i> Lythe, Whitby	<i>a</i> Romford	<i>h</i> Tintern Abbey
	<i>d</i> Royston	<i>d</i> Torquay
	<i>d</i> Ryde, Isle of Wight	<i>d</i> Torquay
	<i>h</i> Ryde	<i>h</i> Tring
		<i>d</i> Tunbridge Wells
<i>h</i> Macroom, N.B.	<i>a</i> St. Agnes	
<i>a</i> Madeley, Salop	<i>h</i> St. Asaph	<i>s</i> Uttoxeter
<i>d</i> Maidenhead	<i>d</i> St. Bees	
<i>d</i> Manchester	<i>a</i> St. Helens	<i>a</i> Ventnor, Isle of Wight
<i>h</i> Mallow	<i>d</i> St. Heliers	<i>a</i> Vienna
<i>a</i> Malta	<i>a</i> St. Ives	
<i>d</i> Malvern	<i>d</i> St. Leonards	
<i>d</i> Mansfield	<i>h</i> St. Mellons	<i>h</i> Wadebridge
<i>d</i> Margate	<i>h</i> St. Neots	<i>h</i> Warwick
<i>a</i> Mayence	<i>d</i> Sandgate	<i>a</i> Waterford
<i>h</i> Merthyr Tydfil	<i>d</i> Sandown, Isle of Wight	<i>d</i> Waterford
<i>d</i> Merton	<i>a</i> Scarborough	<i>a</i> Wellington, Salop
<i>d</i> Minehead	<i>d</i> Scarborough	<i>s</i> West Hartlepool
<i>h</i> Monmouth	<i>d</i> Scarborough	<i>d</i> Weston-super-Mare
<i>d</i> Montrose, N.B.	<i>a</i> Shaftesbury	
<i>d</i> Mountsorrel	<i>d</i> Shanklin, Isle of Wight	<i>h</i> Wetwang, York
<i>a</i> Mumbles	<i>a</i> Sheffield	<i>d</i> Weymouth
	<i>d</i> Sheffield	<i>d</i> Whitby
<i>d</i> Newark	<i>d</i> Sheffield	<i>d</i> Wimbledon
<i>h</i> Newbury	<i>h</i> Shepton Mallet	<i>h</i> Windsor
<i>d</i> Newcastle-on-Tyne	<i>d</i> Shrewsbury	<i>d</i> Windsor and Eton
<i>d</i> Newcastle-on-Tyne	<i>h</i> Sleaford	<i>d</i> Wisbech
<i>d</i> Newport (Mon.)	<i>h</i> Southampton	<i>a</i> Wolverhampton
<i>a</i> Niton, Isle of Wight	<i>d</i> Nottingham	<i>a</i> Worcester
<i>d</i> Norwich	<i>h</i> Southend-on-Sea	<i>h</i> Worthing
<i>d</i> Nottingham	<i>a</i> Southport	<i>d</i> Worthing
<i>d</i> Northallerton	<i>d</i> Southsea	
	<i>s</i> Southsea	<i>d</i> Yeovil
<i>a</i> Oban	<i>a</i> Stamford	<i>s</i> York
<i>s</i> Oldham	<i>a</i> Steyning	<i>d</i> York
<i>a</i> Oxford	<i>d</i> Stockton-on-Tees	<i>a</i> York
<i>h</i> Paignton		<i>d</i> Youghal

Societies' Meetings.

NOTE.—In this column the Editor can, of necessity, only give a brief summary of the proceedings. The PHOTOGRAPHIC SOCIETIES' REPORTER was established to report the transactions of Societies, and the Editor will be glad to receive reports for insertion as early as possible after the meetings have been held, and at the latest before the 24th of each month.

BELFAST CAMERA CLUB.—On Saturday, the 10th inst., the members went to Lisburn, and from thence proceeded to Dunmurry, via the beautiful Hillhall Road. Many plates were exposed.

BIRKENHEAD PHOT. ASSOC.—The ordinary monthly meeting of this Association was held in the Hamilton Rooms, Price Street, on Thursday the 8th May, the President, P. H. Phillips, Esq., in the chair. A vote of thanks was proposed to Dr. Emerson for his "Pictures of East Anglian Life." Mr. W. Faltin exhibited Anshutz's tripod for hand-cameras, which was much admired. Mr. H. E. Burn, the President of the Walton Photographic Association, delivered a paper on "Daylight and its Variations." Mr. Burn drew attention to the fact that while records were being kept, by meteorologists and others, of the rainfall, the wind pressure, the pressure of the atmosphere, etc., no notice was taken at all of the amount of light from the sun, without which existence would be impossible.

Some scientists, he stated, did endeavour to arrive at an estimate of the heat evolved daily, in a very crude manner by the use of a burning glass, but as to the actinic property of the light, the property which is of such vital importance to the photographer, and which is of such variableness, no record is kept, and little or no attention paid to it. In suggesting the desirability of keeping a record of the variations in the actinic property of light, and the comparing of results of investigations in different parts of the country or world, he dealt at some length with the difficulties attending the fixing of a satisfactory standard, and stated that such could only be arrived at by the co-operation of scientific students, who would, with a perfected actinometer, at some convocation fix on a unit upon which to base their calculations. Mr. Burn, in the course of his remarks, described several actinometers, pointing out the errors and deficiencies which were too obvious even in the most perfect. The annual out-door competition takes place at Bidston on the 31st instant; meeting place, Bidston Church gates at 3 o'clock.

BRAMLEY AND DISTRICT PHOT. SOC.—This Society held its monthly meeting on the 6th inst. The Rev. S. W. Cope, M.A., was unanimously elected President. A syllabus for the year's work was formulated. An excursion was arranged to take place on Saturday, June 7th, to Ingleton. The next meeting, Tuesday, June 3rd, will be occupied by the exhibition of work done during the Whitsuntide holidays, and by a talk on "Exposure," led by Mr. J. W. Nicholson, of Rodley. The Society decided to institute a public album for the exhibition of members' pictures. Several new members were added to the Society, and it was intimated that several ladies were about to join. Members showed negatives and corresponding prints on the set subject ("Childhood"). The Society's room being near to Kirkstall Abbey (one mile), tourists visiting this place during the season will be heartily welcomed at the Society's meetings.

BRECHIN PHOT. ASSOC.—The ordinary monthly meeting was held on the 7th inst., Dr. Anderson, Vice-President, in the chair. Mr. Davis Ferrier, F.C.S., President of the Montrose Association, gave a lecture and demonstration of "The Autotype Process." Mr. Ferrier, in his lecture, first enumerated the various patents which had been taken out for the working of this process, and the purchase of these by the Autotype Company. Several sheets of tissue, previously exposed, were developed and mounted before the audience. A print previously mounted by double transfer was stripped. The whole of the experiments turned out very successfully and gave great pleasure to a pretty large audience. The demonstration was followed with the keenest interest, and was highly appreciated by all, this method of printing being new to most of the members. The lecture was illustrated by samples of the various tissues kindly sent down by the Autotype Company. These included specimens of fine art reproductions, which were very much admired. The Secretary intimated that he had received from Dr. Emerson a copy of his "Pictures of East Anglian Life." Mr. Ferrier also, on the motion of the Chairman, received the thanks of the meeting, and a number of the members on the spot arranged to order a supply of carbon tissue, the best thanks the lecturer could receive.

BRIXTON AND CLAPHAM CAMERA CLUB.—The usual fortnightly meeting was held at 35, Bedford Road, Clapham, on Friday, 9th inst. A letter was read from the Hon. Secretary of the Toronto Amateur Photographic Association (Canada), proposing an exchange of lantern slides, etc., later on in the year; and in response it was decided, after discussion, to devote part of the summer to preparing negatives for a set of slides illustrating objects and places of interest in and around London. The remainder of the evening was occupied in inspecting the handsome volume recently presented to the Society by Dr. P. H. Emerson. The excursion to Greenwich was postponed to the 17th inst., members to meet on the promenade above the pier at 3 p.m.

CROYDON CAMERA CLUB.—On the 3rd of May the Hon. Secretary, favoured by magnificent weather, conducted a party of members on an excursion to Wickham Court. Some fifty plates were exposed. The ordinary meeting at the Public Hall, Croydon, was held on the 6th inst. Some additions to the rules were approved. Steps were taken to form a technical library, and members and others invited to contribute books. Several members present offered books. Arrangements were made to hold elementary demonstrations on exposure, development, and printing, for the benefit of beginners. The first batch of six members were to meet on Wednesday, 14th, when Mr. White will

show and explain the process of development (Beach's formula). Members, or would-be members, can, on writing to the Assistant Secretary, Mr. A. Underhill, 23a, Clarendon Road, join the second batch of students, who will begin work in about a week's time. The election of members was next proceeded with. The President announced that he had much pleasure in proposing that Mr. Charles W. Hastings be elected honorary life member of the Society, for the valuable help given to Mr. Maclean in founding the Society, and since it has been established. The President explained that but for the AMATEUR PHOTOGRAPHER many gentlemen would not have heard of the efforts which had been made to form their club. The proposition was seconded and carried unanimously.

DEWSBURY AM. PHOT. SOC.—The monthly meeting was held on the 8th inst., Mr. J. Taylor in the chair. The Secretary laid on the table a presentation copy of Dr. Emerson's work entitled "Pictures of East Anglian Life." The evening was spent in discussing photographic topics.

HACKNEY PHOT. SOC.—The annual meeting was held on the 8th inst., when the following gentlemen were elected officers for the next session: President, Dr. Gerard Smith; Vice-Presidents, Dr. W. Ambrose Kibbler, Dr. Roland Smith, J. Hubert; Treasurer, Frank Jolly; Curator, A. Dean; Secretary, W. Fenton Jones (12, King Edward Road, Hackney); Council, H. Burton, H. J. Beasley, W. L. Barker, J. O. Grant, F. Houghton, and Dr. White. A satisfactory report and balance-sheet was read and adopted. It is pleasing to note that the membership of this young Society (established in May last year) is just on the century. The Society meets in Morley Hall, and various elementary papers are promised during the ensuing season.

HOLBORN CAMERA CLUB.—A meeting was held on the 9th inst. at the club. The President, Mr. T. C. Hepworth, F.C.S., delivered a lecture, illustrated by lantern slides, on photography as applied to the illustrated journalism of the day, as exemplified by the *Daily Graphic*. Messrs. E. Thorpe and W. R. Ramsay were proposed as members. A vote of thanks was proposed to Dr. Emerson for his gift of "Pictures of East Anglian Life." On Saturday ten members proceeded to Carshalton and Beddington. To-day (Friday) Mr. Cobb will give instruction to beginners on silver printing, toning, and mounting. Beginners in photography are specially invited to come.

LEWES PHOTOGRAPHIC SOCIETY.—The meeting was held on the 6th inst. The "business" part of the proceedings consisted of arranging a suitable date to meet the members of the Hastings Photographic Society, it being decided to fix it for Wednesday, June 4th, as being most agreeable to the majority of members of both societies. A vote of thanks was passed to Dr. P. H. Emerson for a handsome gift to the Society of a copy of his work on "Pictures of East Anglian Life." Mr. J. J. Hollway then proceeded to read his paper on "Cloud Photography," and handled his subject in a most entertaining manner. Mr. Hollway exhibited specimens of his own cloud photographs, and by this means showed how greatly the general effect of a photograph could be improved by the judicious introduction of clouds. He also explained how artificial cloud negatives could be manufactured, and the best means of printing them into the pictures. The paper was listened to with great attention, and a cordial vote of thanks was passed to Mr. Hollway for his kindness in preparing and delivering it.

LEYTONSTONE AND EPPING FOREST PHOT. SOC.—The second monthly meeting was held on the 7th inst., the Rev. J. Bradford presiding. After business, Mr. C. E. Webber read a paper on "The Platinotype and Carbon Processes," and developed several prints produced by each method. The Secretary announced the receipt of Dr. Emerson's book, "Pictures of East Anglian Life."

NORTH LONDON PHOT. SOC.—The ordinary meeting was held on May 6th; Mr. Groundwater in the chair. The Secretary reported that Dr. Emerson had presented to the Society through Mr. Fox, the late Secretary, a copy of his book, "Pictures of East Anglian Life." A copy of "The Year-book of Photography" for 1890 was also presented to the Society by the publishers. This being a technical evening, Mr. F. W. Hart exhibited his new portable stand for flash-lamps, photographic backgrounds, magic-lantern screens, etc. It is constructed of bamboo canes, screw jointed, so as to enable the operator to arrange the stand for any desired height or width. The standards are supported on tripod bases; these are made specially firm and rigid by braces, so firm that it seems almost impossible to overturn the structure. The whole of the frame-work and fittings when packed can be

easily carried with one hand by a lad. Mr. Hart placed a few lamps on the stand to illustrate the various motions, and stated that such a stand as shown would accommodate from thirty to forty lamps. A discussion afterwards took place, in which many members joined, and it was generally agreed that the stand was a novel invention, and likely to prove most useful both in flash-light and ordinary photography, and for many other educational purposes. Mr. Parfitt then exhibited a new hand-camera, which he had patented, and described its various parts and actions. Mr. Dando, an old member of the Society, exhibited some splendid negatives of views in Paris, including "The Eiffel Tower," both half-plate and stereoscopic, and also some beautifully printed platinotype pictures with cloud effects, from the negatives. A vote of thanks was passed to the Chairman, and the Secretary announced that the next meeting, on May 20th, would be the last lantern night of the season, when members were requested to bring as many new slides as possible. Mr. Parfitt in the chair.

PETERBORO PHOT. SOC.:—At the monthly meeting held on the 5th inst., a copy of Dr. Emerson's "Pictures of East Anglian Life" was kindly presented by him to the Society. It was arranged that the Society should, as far as possible, make a local survey of objects of interest, especially those in the domain of archæology. A local competition for instantaneous work was also proposed, and an excursion arranged for Whit Monday. Several members also showed specimens of their recent work.

SHEFFIELD PHOT. SOC.:—The monthly meeting of this Society was held on the 6th inst. Mr. J. W. Charlesworth gave a very lucid and interesting paper—subject, "Hand Camera Work." He began by describing a hand-camera made by himself, and showing the most minute details of the same. There were also laid on the table hand-cameras by Swinden and Earp, the Griffiths guinea camera, the quarter-plate Kodak and the original Kodak, two by T. G. Hibbert, viz., Turnbull's and Rouch's; also the Demon, a toy. It was announced that Mr. Chadwick, of Manchester, had promised to give a subject at an early date. A copy of Dr. Emerson's book, "Pictures in East Anglia," given by the doctor towards the library, was on view.

STAFFS, POTTERIES AM. PHOT. SOC.:—The ordinary monthly meeting was held on the 6th inst. The work done by members was shown and criticised, after which Messrs. Powell and Porter, who had exposed plates previous to the meeting, developed them, explaining their modes of development. On the 8th the members visited Trentham, and exposed a number of plates.

WEST SURREY AM. PHOT. SOC.:—On Wednesday, May 7th, Mr. Davison gave an address on "Platinotype Printing Processes," accompanied by a demonstration. Mr. W. Winsford occupied the

chair. Several new members were nominated. The attendance was large, about fifty being present. Mr. Davison having recited the advantages of the processes, and given briefly the theory of the formation of the platinum image, explained the distinction between the hot-bath, cold-bath, and printing-out methods respectively, and proceeded to develop a large number of proofs showing the ordinary details of practice as well as the variations in colour obtainable by the use of the sepia papers, and by the addition of mercuric chloride ($\frac{1}{2}$ drm. to 1 drm. per ounce of hot oxalate solution) to the developer. Cold-bath prints were also developed, specimens of all the variations being handed round upon glass plates, as also mounted examples of platinum prints on fabrics, rough papers, etc. It was decided that the next out-door meeting of the Society should be to Carshalton and district, and that the subject for the first Wednesday in June, evening meeting, be "Gelatin-Chloride Emulsion Papers." Mr. James agreed to treat this subject.

WOLVERHAMPTON AM. PHOT. SOC.:—At the usual monthly meeting of the above Society held on the 6th inst., Mr. G. Phoenix read a paper on "Art in Photography," which was illustrated by some two or three dozen transparencies showing the contrast between the "raw" and the "polished materials." The lecture was most instructive. The President (Mr. T. Ironmonger), in a lengthy and eulogistic speech, proposed a hearty vote of thanks to the lecturer. This was seconded by Major Hay, and carried with acclamation.

WORCESTER AM. PHOT. SOC.:—The first excursion of the Society took place on the 6th inst., under the leadership of Mr. T. J. Hobson. Mrs. Isaacs, of Boughton, near Worcester, kindly placed the whole of her beautiful park and gardens at the disposal of the members, and many plates were exposed.

YORK PHOT. SOC.:—A good number of members were present on May 6th, when after the preliminary business Mr. F. G. Benson read a paper on "Exposure," a full report of which will appear in the REPORTER. At the conclusion of his paper he exhibited a number of very beautiful views, to practically illustrate the principles he had been setting forth. Mr. G. Pawson since the last meeting has been awarded a silver medal for the best "Interior," by the proprietors of the Camera. This being the third medal won by members of the society in a very few months, a vote of congratulation was passed to the three gentlemen (Messrs. Pawson, Benson, and Ogden) who by their efforts had brought honour to themselves and credit to the society. A vote of thanks was accorded to Dr. P. H. Emerson for the gift of "Pictures of East Anglian Life." Communications from the Camera Club, and the Yorkshire Naturalists' Union with regard to geological photographs were considered.

To Correspondents.

THE insertion of **QUERIES and ANSWERS** is attended with much labour, and it is requested that the questions asked and the answers given shall be short and to the point. No charge is made.

RULES

1. Write clearly and distinctly on one side of the paper only.
2. Write each Query or answer on a separate sheet of paper.
3. Write the name and address legibly on the back of each communication, and sign all Queries and Answers with name or *nom de plume*.
4. All matters for these columns **MUST** be received by **TUESDAY MORNING'S POST**.
5. The Editors do not undertake to answer questions by post.
6. In answering Queries correspondents are requested to mention, in every instance, the number and full title of the query referred to.

QUERIES.

3797. **Vignette.**—What colour material makes best vignetting background? Could any amateur oblige?—FOURTH CENTURY.

3798. **Background.**—The yard in which I take photographs has four whitewashed walls, looking rather strange behind a pretty face. Could any

brother suggest anything cheap that would make a suitable background? If it entailed a little labour it would not matter.—PRISON YARD.

3799. **Fixed Focus.**—I use a 10½ in. focus lens. How must I adjust it so that all things beyond a certain distance shall be in focus, for hand-camera purposes? What would that distance be?—PUZZLED.

3800. **Lens.**—My lens is of 4 in. focus, and the stops are marked 4.9, 7.35, 9.8, 19.6, 39.2, 78.4. Will Mr. Davidson or some other reader kindly inform me what are their focal equivalents, and what their relative exposures are?—VENGEANCE.

3801. **Platinotype.**—Can any brother amateur kindly tell me where I can get platinotype and bromide papers in Spain made by English companies, as I always have to send to England for them? Also please state prices, etc.—T. K.

3802. **Exposure.**—Would you kindly tell me where I can get "The Practical Index of Photographic Exposures," by A. R. Wormald, and how much would it cost? Also what is the equivalent exposure in Spain for 5 secs. in England?—T. K.

3803. **Jersey.**—Can any brother amateur recommend Jersey to spend a week at? Also give places of interest, etc., and where Ilford plates can be purchased?—SEYJER.

3804. **Lens for Hand-Camera.**—Wishing to use my 5 by 4 Optimus R.R. lens for hand-camera, in what way can I focus from the outside? Can anyone give me scale?—M. R.

3805. **Whole-Plate Lens.**—My lens is half-plate, 8 in. focus R.R. By unscrewing the front lens, could it be made to cover a whole-plate, using the back lens only?—MISTOG.

3806. **Isochromatic Plate.**—Will some amateur brother send me a portrait or landscape taken on an isochromatic plate, as I should like to see one before buying plates? I will return picture and pay postage. Address with Editor.—WILLIAM ARMITAGE.

3807. **Quinol (Ilford Formula).**—The other day I made two bottles of the Ilford hydroquinone de-

veloper, and a week after, having occasion to develop a few plates, I found out that it absolutely refused to act. Could any other amateur inform me if he has had a like experience, and what is the cause? I have not met with this in other quinol developers.—PHILOS.

3808. **Norway.**—I am visiting western Norway this summer, and shall be glad to hear best parts to visit, exposure, etc.? Also, particularly, if the late daylight prevents changing plates in bedroom at night, and best means of packing plates to avoid breakage when luggage is strapped at back of carriages and other similar conveyances? I am taking hand-camera, and a gross of quarter-plates.—KERRY HEWLAN.

3809. **Diaphragms.**—Can anyone kindly inform me if I can buy a set of diaphragms for a lens, and where? If not, could I make them myself, as I have a lens which is almost useless without them? Any hints would oblige.—RUDIMENTS.

3810. **Photometer.**—How can I make a photometer on the same principle and style as Decoudun's?—MILLY W.

3811. **Plate-Rocker.**—How can I make a cheap and efficient plate-rocker?—MILLY W.

3812. **Lens.**—Will some one tell me what lens to have for all-round work, as I am greatly in want of one?—MILLY W.

3813. **Dark Slides.**—Will any brother photographer oblige me with the use of some of Tylar's metal dark slides, quarter-plate, for use on Whit Monday? Please write to me, stating terms, as early as possible. Address with Editor.—W. ULPH.

3814. **Stereoscopic Effect.**—If the images from a pair of stereoscopic lantern slides were thrown alternately for very short periods on a screen, would the effect be stereoscopic?—W. E.

3815. **Basket Work Camera Cases.**—Can any of your readers tell me where these are to be got, and how they compare in weight, durability, and cost, with the solid leather cases?—MUWA.

3816. **Lantern Slides in India.**—I am taking an optical lantern back to India with me. Can anyone

tell me whether slides can be hired in Bombay, and whether the charge for hiring is much higher than in England?—R. V. G.

3817. **Developers.**—Will hydroquinone and carbonate potash alone make a developer, and, if so, what are best proportions? Also the same, but with washing soda only?—M. U. T.

3818. **Films.**—How much washing do these need after fixing, and what is the best way to do it? as the plate-rack washers do not seem suitable.—M. U. T.

3819. **Brighton.**—Any hints respecting Brighton would greatly oblige. Have not been for many years, and am going shortly with camera. Could undisturbed use of dark-room be obtained one hour a day for a fortnight?—J. G.

3820. **Platinic Chloride.**—In issue April 25th, 1890, of AMATEUR PHOTOGRAPHER I see toning with platinic chloride is as easy as with the platinum salt. Mr. F. Perrins says, "Add to a slightly acidulated solution of platinic chloride a crystal of sodium sulphite, brush over a well washed silver print on plain paper to bring about the immediate displacement of silver by the platinum." Will someone kindly tell me what would be the effect on silver albumen paper?—H. F. LINGING.

3821. **Watch Camera.**—Can anyone recommend Lancaster's watch camera as being reliable and practical? Are the dark slides light-tight and well made?—ORSE READ.

3822. **Luggage Carrier.**—Would some cyclist and photographer kindly tell me where I could get a luggage carrier for Safety bicycle to carry whole-plate camera, etc.? Full particulars and probable cost would oblige.—HERCULES.

3823. **Elkonogen.**—Will a reader kindly give me a formula of the above that will give results equal to pyro?—A. C.

3824. **Toning.**—Will someone kindly say why, when I add the gold to the sulphocyanide of ammonium solution for Obernetter paper, a yellow precipitate is formed? I have tried adding chalk to the gold, but all to no purpose.—PUZZLED.

3825. **Backed Plates.**—Where can I buy plates ready backed for taking interiors?—FATHER PHIM.

3826. **Enlarging.**—I wish to enlarge from quarter-plate negatives (up to, say, 12 by 10) with limelight lantern. Would any brother amateur please say how I should proceed? What book can be recommended on this subject?—ARLINE.

QUERIES UNANSWERED.

Mar. 7th.—Nos. 3528, 3551, 3554, 3556.

21st.—Nos. 3585, 3587, 3593, 3595, 3596, 3612, 3613, 3614.

28th.—Nos. 3634, 3636, 3637, 3638, 3640, 3641, 3643, 3653.

[April 4th.—Nos. 3661, 3664, 3674, 3677.

11th.—No. 3694.

18th.—Nos. 3703, 3708, 3718.

26th.—Nos. 3727, 3731, 3735, 3736, 3742, 3744, 3747.

May 2nd.—Nos. 3758, 3767.

9th.—Nos. 3788, 3790, 3793, 3795.

ANSWERS.

3530. **Elkonogen and Quinol.**—Have never tried this developer myself, but have heard it highly spoken of. It is said to combine the speed of elkonogen together with the sustaining energy of quinol. You will be pretty safe in trying it.—H. LEACH.

3531. **Reducer for Bromide Prints.**—Don't bother reducing bromide prints, but make a fresh print. The results after reducing are never so satisfactory as otherwise, and the paper, etc., is cheap enough.—H. LEACH.

3566. **Toning, etc.**—Splendid tones are produced by this bath. I should fancy that the prints would be even more permanent than others if anything.—H. LEACH.

3601. **Lantern Slides.**—Messrs. Thomas and Co. recommend the following for their plates:—

Alum	...	...	...	3	ozs.
Ferrous sulphate	...	...	...	2	"
Citric acid	...	...	...	3	ozs.
Water	...	...	...	20	ozs.

You might also try the Ilford formula. I prefer the ordinary ferrous-oxalate developer to any other. Carbonate of soda and hot water will clean the cover glasses very well.—H. LEACH.

3610. **ColloTYPE.**—The subject is far too extensive to treat of in these columns. Get Burton's "Photo-Mechanical Printing" and read up the process. I am afraid you will not be able to practice it satisfactorily at home.—H. LEACH.

3620. **Ventilating.**—Make two or three tin tubes of this shape, Z, and fix them in the wall of your room. Paint them dead-black inside. The tubes should be about two or three inches in diameter. This form of ventilator is both cheap and efficient.—H. LEACH.

3629. **Clark's Platinum Process.**—This process is rather more expensive than ordinary gold toning, but the superiority of your resulting prints will amply repay you.—H. LEACH.

3630. **Iron Precipitate.**—I should think that this

would be owing to excess of ferrous sulphate being present. It will not do any harm.—H. LEACH.

3633. **Shutter.**—The Thornton-Pickard time and instantaneous is one of the best shutters out, and you will never regret purchasing it. Messrs. Underwood's new shutter, the Instantolux, is a capital made instrument, very efficient, and moderate in price. If you get it, it will be sure to satisfy you.—H. LEACH.

3650. **Taylor and Hobson's Lenses.**—This firm make capital instruments, and your selection would be a very judicious one, as you would be able to do any kind of work that would ever come within your scope. They will work all right with the camera you mention.—H. LEACH.

3652. **Alum.**—Alum and chrome alum are used for same purposes. Solution of chrome preferred. Colour non-actinic, and easily distinguished from other clear solutions.—ALBERT DAVID.

3709. **Musty Album.**—Scent it with lavender water, or try any other perfume.—H. LEACH.

3711. **Copying.**—Place print in a good diffused light (near a window is suitable); stop down to f/32, and give 30 seconds. It would be better to unframe the print.—H. LEACH.

3715. **Silver Solutions.**—Your old solutions will be no good for sensitising albumenised paper. A solution of nitrate of silver, 50 grs. to the ounce, is used for that purpose. Float the paper for two or three minutes on this solution, and then hang up to dry.—H. LEACH.

3752. **Exposure.**—A difficult question to answer, but probably about two seconds with f/22, and about one with f/16.—H. LEACH.

3753. **Saloon of Ship.**—I am afraid that you could not do this with success.—H. LEACH.

3754. **Hand-Camera in an Exhibition.**—If you use a large stop and a very rapid plate, you might manage to get some sort of negative. If you could give a time exposure, you would manage it all right.—H. LEACH.

3759. **Isle of Man.**—Give about a quarter less exposure for the interior of the island than given in Wormald's tables. At midday, sunlight, in Douglas Bay, you could give one-fortieth of a second with f/10.—H. LEACH.

3760. **Focus of Lens.**—With f/10, probably about 19½ yards. Rule: "Multiply 2·7 by the square of the focal length, and by the fraction expressing the diameter of the diaphragm aperture." It would be an easy matter to test the lens.—H. LEACH.

3765. **Adapting Camera.**—It is difficult to understand what you mean. If you want to know whether you can fix a half-plate dark-slide to a quarter-plate camera, most certainly not. Another time please be more explicit.—H. LEACH.

3772. **Scratches on Burnisher.**—I fancy it is the inferior quality of the bar that makes it so liable to scratches. Of course you lubricate your prints with castile soap and spirits. See that there is no dust on them. Grind some fine emery into a paste with oil, and repolish the bar with it.—H. LEACH.

3773. **Instalments.**—Messrs. Goy, 21, Leadenhall St., London are the only firm who let you have photographic apparatus by instalments that I know of. It is better to buy your apparatus outright.—H. LEACH.

3774. **Development of Instantaneous Printing.**—See page 614 of the "British Journal Almanac" for a good method of developing instantaneous exposures.—H. LEACH.

3775. **Glass for Dark-Room.**—I should scarcely advise you to work in the light you mention. I, however, often work in a light filtered through what is known as canary medium, and have found it quite safe.—H. LEACH.

3776. **Demon.**—This camera is properly named, being only a snare and delusion to everybody.—FRED DAVIS.

3778. **Demon.**—It is a very interesting toy; well worth the money.—SUNLIGHT.

3779. **Demon.**—A mere toy, made to sell. What more can be expected?—H. LEACH.

3777. **The Camunilux.**—A very ridiculous question. See my answer to 3776.—H. LEACH.

3778. **Dark-Room Gas Lamp.**—I have found Perken and Rayment's lamps for gas or oil excellent. Choose a large one, with a flashed orange glass and canary screen. The light is brilliant, and perfectly safe for all plates, except isochromatics, which require the substitution of a sheet of dark-ruby glass for the above.—E. F. C.

3775. **Dark-Room Gas Lamp.**—The Optimus is the best in the market, and is a really splendid article.—H. LEACH.

3779. **Labels.**—Varnish with copal varnish.—H. LEACH.

3779. **Labels.**—Varnish over your labels with any ordinary transparent varnish; they will never come off then.—W. A. J. CROKE.

3780. **Weymouth.**—If "G. P. W." would call at Smith's Supply Stores on coming to Weymouth, he would get all information required, also can there get plates, paper, or anything required at same price as in London.—AMATEUR.

3781. **Tone.**—I must apologise to "Stillingfleet" for my grave error in my answer to his query re tone. The formula should have been:

Hypo	...	...	...	2	ozs.
Chloride of gold...	...	...	...	3	grs.
Water, to	...	...	...	10	ozs.

The reason I recommend this bath for Aristo pape is to enable him to get the tone he requires, which other baths, I think, will not give, as they tone to purples, while this ranges from yellow to brown.—Q.

3782. **Burnishing.**—Mount your prints in the ordinary way with starch, and when they are quite dry rub a little dry Castile soap over them, which apply with a tuft of cotton wool. The sooner they are burnished after mounting, the better. Then run them through the burnisher in the ordinary way, once or twice.—W. A. J. CROKE.

3782. **Burnishing.**—The prints should be dry, and mounted. Dissolve 5 grs. of castile soap and smear over print, and allow to dry. The bar should just be hot enough to be held comfortably in the hand. When once in the burnisher, the print must be passed right through without stopping, otherwise lines will appear on the print.—H. LEACH.

3782. **Burnishing.**—The prints must be allowed to dry after mounting. Castile soap, applied dry by rubbing a piece of flannel on it and then over the print before passing through the burnisher, is as good as anything. The surface obtained depends on the temperature of the bar, and the number of times the print is drawn over it. The heat is about right when ascertained in the same manner as a laundress tests a flat iron.—E. F. C.

3783. **Havre.**—I crossed to Havre last summer, taking with me a large stock of plates. I had no difficulty at all at the Custom House at Havre, nor on my return at Southampton. I should advise "Terwalk" to cross over to Trouville. There are steamers every day, generally two. There is plenty of food for the camera on the beach and in the harbour. I was there at the beginning of July, and found very short exposures were required.—F. M. G.

3784. **Clark's Platinum Process.**—A pinch or two of sodium carbonate to, say, a pint of water will suffice to neutralise any acidity carried over from the toning bath.—E. F. C.

3785. **Hypo.**—The solubility of hypo is 1 in 1·5 of cold water; consequently two-thirds of an ounce of hypo will form one ounce of saturated solution.—H. LEACH.

3785. **Hypo.**—Each 1 oz. of saturated solution of above will contain 7 drms. of dry hypo.—FRED DAVIS.

3785. **Hypo.**—About ¾ oz. I put about 12 ozs. hypo into 20 ozs. water. When it is all dissolved, the solution will measure about 25 ozs. For use, take 1½ ozs. saturated solution, and add 1½ ozs. of water. The strength will then be 1 to 5.—SUNLIGHT.

3786. **Carbonate of Soda.**—About 1 oz.—SUNLIGHT.

3786. **Carbonate of Soda.**—Here the object of the sodium carbonate is to neutralise the acidity that exists in most ready sensitised papers. A teaspoonful to two pints of water will suffice, or ½ oz. saturated solution. The proportion need not be very exact.—E. F. C.

3786. **Carbonate of Soda.**—I use 60 grs. of carbonate of soda to 1 pint of water, keeping the prints in this solution for about five minutes.—GUM TREE (Rome).

3787. **Stirn's Secret Camera.**—I develop in a cheese plate. Out of twenty-four exposures I have obtained about two good negatives. To trim, procure from a turner's a metal disc of suitable size, hold print against same, and trim. Apply to Hockins—see advertisement AMATEUR PHOTOGRAPHER.—FRED DAVIS.

3787. **Stirn's Secret Camera.**—I cut the plates in half, and develop them in a half-plate dish with pyro-ammonia. You will have to practice a good deal with the camera before you can turn out good negatives. You will have no difficulty in cutting the prints out if you use a shape and a swivel wheel trimmer. Everything requisite for these cameras can be obtained at Perken, Son, and Rayment's.—SUNLIGHT.

3789. **Instantaneous Lens and Shutter.**—A rapid rectilinear lens by a reputable maker, and a Newman's shutter.—SUNLIGHT.

3791. **Toning.**—Most probably result is due to using stale paper. Get a fresh lot. Durand's is very good.—FRED DAVIS.

3791. **Toning.**—I have found the following give a purple tone: Wash the prints slightly, and then put them in a solution of 1 oz. of washing soda to a gallon of water for 5 minutes, give a final wash, and tone with acetate. See Burton's "Modern Photography," page 113.—A. H. M. GREENHILL.

3791. **Toning.**—Print a fair depth. Put prints in water, "having two dishes," so as to remove when changing water. About six changes required. You will see if the water is clear, when place them in a bath, 1 pint water, about 2 teaspoonfuls bi-car. soda; remain 5 minutes. Follow with toning. Try and get bath between 70 or 80, having your toning dish in a larger vessel, the latter containing hot water. Tone required depth, place then in bath, 1 pint water, 1 oz. common salt, 3 drops ammonia '880; heat between 70 and 80; remain 5 minutes. Now hypo 2 ozs., 1 pint cold; 10 or 15 minutes. Rinse; then place in cold water; remain 20 hours, or less; few hours extra will do no harm. Water changed about three times. Finish up by placing in hot

water for 5 minutes. If remaining till water is cold, lessen the first time. Should be purple tone fit for mounting after burnishing or enamelling, etc. Note—keep your fingers clean.—PETER PIPER.

3792. **Silver Prints Reducing in Toning.**—After toning, place prints in bath—1 oz. salt, 1 pint water, 3 ammonia—for about 5 or 10 minutes. Perhaps you do not print deep enough, or tone too far, with the salt water bath. The hypo does little or none as to taking out colour.—PETER PIPER.

3793. **Silver Prints Reducing in Toning.**—Most probably your toning bath is acid. Do you try it with litmus paper?—FRED DAVIS.

3792. **Silver Prints, Reducing in Toning.**—Over-print a little, as most toning baths reduce a little, which must be allowed for.—H. LEACH.

3794. **Hiring.**—If "Anxious" will write to me, I will send him a circular of a place where he can get a camera and lens on the "hire system," where he will be well treated. I got a £5 5s. camera there on the above terms, and paid 10s. a month for it, and got it at the ordinary catalogue price, and could not have been dealt with more fairly. I can strongly recommend this to "Anxious."—BATTEN (address with Editor).

3795. **Lens.**—The best kind of lens for all-round work is a rapid rectilinear. Focal lengths vary with make. Get an Optimus R.R., 9 by 7, f/12, price 82s. 6d., and you will be satisfied.—H. LEACH.

3796. **Lens.**—A rapid rectilinear, focal length 11 inches, for whole-plate.—SUNLIGHT.

3796. **Lens.**—The lens known as a rapid rectilinear or doublet, consisting of two combinations, is the best for all-round work. Unless it is required to photograph architecture in cramped situations, the focal length should not be less than the longest side of the plate used; say, $1\frac{1}{4}$ or $1\frac{1}{2}$ times.—E. F. C.

EDITORIAL

NOTE.—Anyone requiring an opinion upon photographic apparatus, plates, etc., must give a number or initial for identification, as in no case will makers' names be inserted in this column.

SPECIAL NOTICE.—We are very pleased to find that replies in this column are so much appreciated, but we should be very grateful if those requiring advice would send their letters to us BEFORE TUESDAY MORNING'S post if possible. The time occupied in replying in this column is very considerable, and owing to the often late receipt of letters, many matters have to be left over each week. This we much regret.—ED. AM. PHOT.

C. DODMAN.—See our rule at the head of this column. The lens you name is a good all-round one, and works at f/8.

THERMO.—You cannot expect to do everything with a hand-camera. The lens you propose is an excellent instrument, but whether it will do all you require is a question. We think it most improbable that you will be satisfied with any focussing arrangement to the camera you name, the lens is, we think, of fixed focus. The sheaths could not be used we think. You know that we do not name apparatus, but cannot at all endorse your idea of taking parts from two or three hand-cameras, and thinking to make a workable whole. The lens you have selected is one of the best in the market for the purpose, and equal to either A, B, or C. What do you want more if the lens you have "gives excellent definition," the shutter fitted to the camera is quick, and you say of the whole: "It cannot be beaten for combined portability, efficiency, and convenience." Why change? Of those you name we consider D the best "hideable" or detective camera, and F the most serviceable hand-camera. Glad to hear you date from No. 1. Hope you may be a subscriber for many years.

H. BUTLER.—We should advise C. The lens you name, working at f/8, will answer your purpose admirably. You cannot do better than to try plates 3 and 4. We should recommend you to try the cheap series of No. 4.

C. H. GREEN.—We have registered your name and address, and will communicate with you shortly.

CAFE NOIR.—You will not do better than have the shutter B; we have been much pleased with it. The action of A is good, but it has not as many good points as B. We shall be delighted to see any subscriber from the "sister isle," and shall be pleased to have an opportunity of inspecting photographs of "Old Dublin." Entry Form "Travelling Studentship" has been sent you.

LANDSDOWNE PLACE.—For cheapness, reliability, and efficiency we place the hand-camera No. 1 first. No. 4 is a very useful instrument, and has a most perfect shutter. No. 6 is a good camera, and is worth seeing, if you will go to the price. No. 2 is useful if you want a handy camera for packing, and one that can be really used without being noticed. We have no knowledge of No. 7. The lens No. 8 is not equal to the other you name.

E. W. BREWERTON.—We very much regret that the makers of the camera you name have never had the courtesy to comply with our request to send us one of their cameras for inspection, although they know all such apparatus is returned within fourteen days; under these circumstances we cannot advise you to purchase the instrument. It is our rule

never to give advice about apparatus unless we have had an opportunity of examining it.

WALTER N. GREENWELL.—Do we understand you, you want English stamps that have been used? Many thanks for use of dark-room.

R. MURRAY.—We shall be pleased to use your MS. later on, and will send you a proof.

H. H. SEALY.—Should we require the negative we will write you; many thanks for your kind expressions.

J. M. BUTLER.—Our "Visitors' days" are Mondays from 2 to 5 p.m., and Thursdays from 11 a.m. to 1 p.m.

MRS. MOUNSEY.—Shall hope to see your work in the Ladies' Competition.

RUDIMENTS.—Certainly.

W. H. ARMITAGE.—No. 1: Read our rules. No. 2: Do you mean a transparency or a reversal of the image? You should take care to dust your plates before using; the holes are probably due to your not having done so.

H. H. G.—You are to be congratulated upon your work. In Nos. 1 and 2 the shadows are rather too deep; No. 3 is very excellent, and the lighting perfect. No. 4: the foreground is weak, and the lighting poor. No. 5 is slightly stained. No. 6 slightly lacks definition, especially in the mid-distance. We admire very much Nos. 3 and 6, and from them we feel satisfied that we shall soon find you in the front ranks of artist photographers.

AMATEUR.—If you require a first-class camera, either A or B; if a cheap one, nothing can beat H. In lenses we should advise J or L. The lens O would be best for you with camera H.

JAMES FURNIVAL.—Should advise you to have A or D; perhaps the latter will best suit your purpose.

A. D. W.—We should advise you to have an R.R. lens. The A lens is, we believe, fitted to the camera you name. If so, we have seen very good work done with it, although we have not used it ourselves.

JOHN PRICE.—If you only want to work with a fixed focus we should advise No. 1; if with adjustable focus, you will find No. 4 a very excellent instrument, and with it we should advise lens No. 1 or 4. The shutter in No. 2 camera is very good, but it is the best part of it. The focussing screen can only be used in No. 3. This camera is exceedingly compact, but it is expensive, and we have heard of the shutter being not satisfactory. The plates you name have the reputation for being thickly coated, and should give you density if properly handled.

H. LEACH.—Very good of you; accept our grateful thanks. Plates in the following order: G, F, E, I, A, K. We do not care for the rest; L are good, but stand alone.

LEWON.—We think A would best suit your purpose; neither of the others would be likely to stand the climate so well; they are more complicated, and it would be difficult in such a country as Burmah to get them repaired. A is simplicity itself. There are few films that can be thoroughly relied upon, the fault rather of the coating than of the makers of celluloid. In the B camera the shutter is the best, but with the A all can be done that is required. We should not advise you to rely upon 1 and 2; we should certainly advise O.

J. G. L.—Will write you shortly. If you want a first-class camera, either 3, 4, or 5. Really one is as good as another; we work a 4, and find it very serviceable.

MARIE DE MEUDON.—You had better have the camera you name, and will be able to do very fair work with the lens mentioned.

TAPO.—Cannot advise you upon the lens. Try it, and let us know the result. You should have no difficulty in obtaining purple tones. Try 15 grs. of gold chloride, and the concentrated solution of sulpho-cyanide. Your son is a clever fellow, and we hope soon to see some more of his work.

P. L.—We like the No. 2 shutter best. For special purposes certainly, but not for ordinary landscape. Use matt surface, Obernetter or Aristotype.

BEGINNER.—You should have no difficulty in securing the bright surface if you queuee on to glass, provided you are careful in mounting. We should recommend you to mount dry with glue thinned with methylated spirits.

J. S. TELFER.—You had better buy "Platinum Toning" (Clark). The varnishing of negatives is not absolutely necessary, but with care can easily be accomplished.

H. A. S.—We would have gladly published your letter had you sent your name as well as address.

MUWA.—We insert your query, as we cannot help you; they are both good shutters. But we rather favour B.

M. N. T.—Thank you very much for the suggestions, some of which we will adopt short.

F. MALL.—The paragraph inserted will, no doubt, meet your wishes.

SHUTTER.—We very much like No. 1, and No. 4 is a good shutter. The firm you name have acquired all the patents.

E. C. L.—No. 1: Certainly. No. 2: Nothing since. No. 3: The ordinary, in our opinion.

C. EMANUEL.—On Monday afternoon or Thursday morning (but not next Thursday).

W. BATTEN.—Why do you reply to query twice over? Send us the name and address; we are often asked the question.

R. W. SENIOR.—We will write you shortly; the hand-camera proved to be a very ordinary camera of American manufacture.

ZINCO.—Your question shall be sent to Professor W. K. Burton, who is resident in Tokio, Japan, therefore it will not be answered for some months.

AUSTRALIA.—No name or address, consequently your question is held over.

ENQUIRER.—We cannot advise you to do business with either firm. We think not.

Sale and Exchange.

RULES.—Fourpence for twelve words or less, and a penny for every additional three words, must be enclosed with each advertisement, together with the name and address of the sender, which must be paid for, and sent to Hazell, Watson, and Viney, Ltd., 1, Creed Lane, Ludgate Hill. Halfpenny stamps preferred. A single figure, or group of figures undivided by letter, space, stop, or we do, counts as one word; compound words count as two words.

REPORTING UPON APPARATUS.—The Editor of the AMATEUR PHOTOGRAPHER will be pleased to report, to any intending purchaser, upon apparatus, etc., offered for sale in the "Sale and Exchange" column, provided such apparatus, etc., is forwarded by the seller to him to the offices of the AMATEUR PHOTOGRAPHER, 1, CREED LANE, LUDGATE HILL, LONDON, E.C., free of charge. The intending buyer to pay a fee equivalent to a commission of 2½ per cent. upon the sale price of the apparatus, etc. The publishers will undertake the packing and sending of all goods at the cost of the seller. As far as possible, the Editor will undertake to send a report within TWO DAYS of receipt of goods.

DEPOSITS.

Deposits for goods to be forwarded on approval may be made with our Publishers, who will hold the amounts deposited until they are satisfied that the transaction has been executed to the satisfaction of both parties. Cheques and Post Office Orders should be made payable to Hazell, Watson, and Viney, Ltd. A nominal charge of 1s. is made whether a sale is effected or not.

N.B.—Trade Advertisements cannot, under any circumstances, be inserted in this column. Such advertisements can be inserted elsewhere at the Trade Scale, which may be obtained on application to Parry and Crawford, 1, Creed Lane, Ludgate Hill, London, E.C.

"Amateur Photographer."—AMATEUR PHOTOGRAPHER, vols. viii., ix., x. (one short), 77 numbers, clean; offers wanted. — Hutchinson, 87, Chorlton Road, Manchester.

Vols. viii., ix., and x. AMATEUR PHOTOGRAPHER, vol. viii. bound, perfect. — J. Hydes, Oonlsboro', Rotherham.

"Amateur Photographer," etc.—What offers? Ninety numbers AMATEUR PHOTOGRAPHER, 40 numbers "Photography," clean.—17, Sedan Street, Walworth.

Apparatus.—Bargains, all new. Original Kodak, half-plate lantern slide-making camera, toy lantern and slides, 5 Demon cameras, quarter-plate Instantograph Le Merveilleux; offers for lot or separate. Also Singer's 18 guinea Safety, been used six months.—Holloway, Chemist, Leamington.

Three Tylar's half slides, 9s.; Ross' lens, 30s.; good canvas bag, 5s.; best tripod, in case, 12s.—Chalon, Boys' Refuge, Manchester.

Backgrounds.—Two exterior backgrounds, and one interior, 8 ft. by 6 ft., flatted oil, rollers; 10s. 6d. each; condition new.—Hill, Hampton Road, Twickenham.

Books, etc.—Books, magazines, papers; value £5; offers in photographic apparatus requested. — Ed. Mason, Askrigg, via Bedale.

Burnishers.—Will exchange my splendid burnisher (13 in.) for small hot rolling machine; approval.—Jowett, Aylesbury.

Whole-plate Useful burnisher, with gas arrangement, nearly new; 9s.—Walsh, 179, Walter Street, Blackburn.

Cameras.—Stereo pinhole camera, collapsible, 1 slide, 5s. 6d.; Demon detective, with four changing bags, 3s.—14, Cedar Road, Leicester.

Cameras, etc.—Half-plate Instantograph camera, without lens, with double wooden slide, three Tylar's metal slides and adapter, Tylar's blind shutter, brass extension for copying, and folding stand, perfect condition; £3 5s.—Butler, 20, Alvington Crescent, West Hackney, N.E.

Extra-special quarter camera, triple extension, Lancaster's, three double slides, perfect; 35s.—Cartledge, Birkendale, Sheffield.

Underwood's Tourograph camera, half-plate, two double backs, quarter carrier, all as new; 45s.—Riley, 83, Lans Side Road, Haslingden, Lancashire. Lancaster's half-plate Merveilleux camera, almost new, with three double slides, canvas bag, and six quarter-plate carriers; at 45s., or separate. — Miss Ellis, Summersbury, Shalford, Guildford.

Camera, Lens, etc.—Morley's 5 by 4 light model long-focus camera, reversing and swing-back, with three double dark-slides in waterproof canvas case, nearly new, also ½ in. R.R. lens; cost £3 10s.; price

£4 10s.; approval; deposit.—J. H. Williams, Camera Club, 21, Bedford Street, S.W.

Dark-Slides.—Two double mahogany book-backs, 7 by 5, excellent condition.—Barratt, Infirmary, Leeds.

Hand-Cameras.—Detective camera, perfect, as new, six double backs for quarter-plate lens, complete; cost £6 10s.; will take £3 10s.; bargain.—Knight, 13, Albion Street, Leeds.

Fallowfield's Facile, new, fitted with R.R. lens, four stops, finder, and Miall's patent perfect sheath; only 80s.—T. Bush, Somerville, Wells Road, Bath.

Shew's Eclipse quarter-plate, with lens, finder, and six double slides, good condition; cost about £7; price £5 5s., or offers.—James Blair, 18, Aytoun Street, Manchester.

Demon detective camera, as new, for a Lancaster's quarter dark-slide.—19, Huddersfield Road, Staley-bridge.

Kodak, No. 2, quite new, used but once, complete, with leather carrying case, etc.; price £4; cost £2 a month ago.—A. B., 103, Golden Lane, E.O.

Facile, nearly new, cost £5 5s., spring shutter fitted, can be used with spring or without; lowest cash, £4 4s.—N., 5, John Street, Ryde, I.W.

Stereoscopic hand-camera, leather bellows body, and five single slides; 17s. 6d.—189, Southampton Street, Reading.

Stirn's detective camera; 12s.; or exchange for quarter-plate rapid lens, or offers.—Graham, Earningham, Harrow.

Hand-Cameras, etc.—For sale or exchange, half-plate hand-camera, four double backs, swing-back, rising front, long extension, made for use on stand or hand work, covered with morocco leather, also Gotz Volute shutter, for 2 in. hood, 16s.; Thornton-Pickard, for 2 in. hood, 12s.; Jefferies' whole-plate washer, 10s.; walking-stick tripod, 15s.—No. 56, AMATEUR PHOTOGRAPHER OFFICE.

Beck's detective camera, good as new, cost £12, six double slides; price £5 10s.; approval; deposit.—Faulkner, Blenheim Road, Moseley, Birmingham.

Lenses.—Optimus Euryscope, almost new, perfect, 7 by 5; 70s.—Round, St. Thomas's Hospital.

Suter's 4B applanatic R.R., 1½ in. focus; 70s.—Pringle, 83, Berners Street, Ipswich.

Lancaster's quarter-plate instantaneous lens, with shutter; exchange natural history specimens, or anything useful.—Chatterton, 132, Queen Victoria Street, R.C.

Ross' 8 by 5 rapid symmetrical lens, excellent condition; 80s.—Bygrave, 15, Canterbury Road, Brixton, S.W.

Lens and Shutter.—Lancaster's half-plate instantaneous lens, fitted with Iris diaphragm, and Lancaster's latest shutter, perfect condition; will take 20s.; cost 45s.—Ratcliffe, Exchange Chambers, Liverpool.

Print-Washer.—Jefferies' whole-plate print-washer, excellent condition; 10s. 6d.—Bygrave, 15, Canterbury Road, Brixton, S.W.

Sets.—Whole-plate camera, all movements, Ross' R.R. lens, four backs, tripod, etc., leather case; cost £24; offers. Also hand camera; cost £5; offers.—Sinclair, 139, Cannon Street, London.

For sale, Lancaster's quarter-plate Meritroire camera, in thoroughly good condition, with lens, three double dark-slides, and tripod stand; cost two guineas; will take 30s.—F. W. Sears, 1, Creed Lane, Ludgate Hill.

Splendid whole-plate set, Rayment's camera, Euryscope lens, shutter, tripod, case, new condition; accept £14; cost £18.—17, Sedan Street, Walworth.

Lancaster's half-plate Le Meritroire 1889 patent camera, tripod, and dark-slide, complete, faultless condition; £2 14s.—P. Galley, Fern House, Murchison Road, Leyton, E.

Whole-plate Lancaster's extra-special camera and Optimus tripod; cost 6 guineas five weeks ago; will sell for £4.—35, Berger Road, Homerton.

Modern whole-plate camera, long extension, reversing back, etc., three double slides, and Ashford's tripod, set of three Wray's lenses, wide-angle R.R. (fitted with Caldwell's shutter), and long-focus, with black leather carrying case; whole cost £25; what offers?—C. L. Stevenson, 7, Royal Bank Place, Glasgow.

Lancaster's quarter-plate International camera, lens, instantaneous shutter, ash folding tripod stand, one mahogany double back, six Tyler's metal double backs, with focussing screen; original cost, £3 7s. 6d.; condition as new; £2 10s.—4, Nubia Terrace, Putney.

Half-plate Instantograph, bought December, 1888, taper bellows, reversing frame, all motions, two

double slides, one carrier for quarter-plates, very fine rapid rectilinear lens, moveable hood, case of Waterhouse stops, folding tripod stand, all in capital condition; first 80s. has the lot.—Gilbertson, 18, Hedley Street, Hebburn-on-Tyne.

Sands and Hunter's 6 by 4 camera, leather bellows, double dark-slide, two carriers, rigid folding ash tripod, Abraham's pneumatic drop shutter, Optimus 5 by 4 rapid rectilinear lens and stops, excellent definition, focussing glass, cloth, and Aptus finder; exchange for Facile hand-camera with rectilinear lens, or cash offers.—Jack, 74, Oakley Square, N.W.

Half-plate single extension camera, London make, two slides, stand, leather case, good condition; 35s.—Cooper, Chesham, Stockport.

Half-plate double extension camera, modern make, three double backs, two-fold tripod, leather bag, two fronts, no lenses; price 70s.—Cooper, Chesham, Stockport.

Half-plate camera, with two double backs, in good order; price £1 10s.; or with R.R. lens and tripod, £4.—H. McMaster, Blaisbury, Portwilliam, N.B.

Rayment's patent whole-plate camera, long extension, three double backs, solid leather case, perfect condition; Editor's opinion; price £6; letters only.—Fletcher, Teviot Villa, Upper Caterham, Surrey.

Instantograph, Lancaster's, quarter-plate, complete, with lens, instantaneous shutter, four double dark-slides, tripod, printing frames, dishes, cutting shapes, draining rack, also stiff sides camera case, nearly new; all at 3 guineas.—Housekeeper, 59, Chancery Lane, W.C.

Splendid half-plate set, £4; magic lantern, 30s.; Diamond Safety bicycle, £7; double breechloader, £5; plated cornet, £2; harmonium, £5.—Decorator, 2, Peter's Street, Norwich.

New half-plate camera (Sharp and Hitchmough), double extension, double swing-back and front, three double slides, four-fold tripod, with turntable top, price £6 6s.; 3B Suter lens, price £2 15s.—Cecilia House, Montford Place, Kennington.

Splendid half-plate camera, all movements, four double backs, R.R. lens, tripod, twelve printing frames, two sets dishes, burnisher, retouching desk, scales, shutter, lamps, solutions, etc., everything good and new; £7.—Bedford, 12, Johnson's Place, Lupus Street, Pimlico.

Lancaster's half-plate Instantograph set for 75s.; quarter-plate camera, square, leather bellows, R.R. lens, slide and stand for 50s.; 45s. Optimus lantern for 2 guineas; all new and perfect.—J. W. Moore, 7, Market Square, Hanley.

Half-plate Instantograph (Underwood's 1888), one dark slide, tripod, R.R. lens with Iris diaphragm, as new, cost £6, bargain; 75s.—H. Rowe, Wallbridge, Stroud, Gloucestershire.

Lancaster's 1888 Instantograph camera, half-plate, two double backs, 8 by 5 Optimus rapid rectilinear lens, and Optimus plunge shutter, including tripod stand and bag, complete, good condition; £6.—Photo, 3, Cobham Street, Gravesend.

Half-plate Instantograph set, camera, double extension, leather bellows, reversing back, instantaneous lens, shutter, double slide, tripod, two printing frames, bottles of developer, and toning instruction book, three ebonite dishes, quite new; 75s.—A. J. Doyle, Dacre House, Lee.

Perken's half-plate camera and lens, double slide, printing frame, two developing dishes, all in wood cabinet, also folding tripod, good condition; price, £3 3s.—Charles Holworthy, 46, Widmore Road, Bromley, Kent.

Set, etc.—Quarter-plate Instantograph set (1888), with, in addition, quarter-plate elliptical shutter, and release, three Tyler's slides and adapter, and waterproof bag, all in capital condition; original cost 69s.; must sell; no reasonable offer refused; no approval.—J. Tims, 4, Heatherside Road, Ewell, Surrey.

Set, Plates, etc.—Half-plate Instantograph camera, three double backs, splendid lens, instantaneous shutter, tripod stand, plates, dishes, pyro, ferrous-oxalate developer, gold and other chemicals, printing frame, ruby lamp, forty numbers of AMATEUR PHOTOGRAPHER, Marion's "Photography," etc., all in good condition; to clear out, £1.—Duffy, Morpeth Street, Rotherham.

Stereoscopic Camera.—Stereoscopic camera (by Ross), pair of lenses, four condensers, each two dark-slides, 80s.; half-plate Instantograph lens and instantaneous shutter, 20s.—C. A. Brant, Wokingham, Berks.

Stripping Films.—Stripping films, four (48) spoils, whole-plate, 15s. each; ditto quarter-plate, 4s.—Rev. A. B. Whatton, 58, Warwick Gardens, Kensington.

WANTED.

Camera, etc.—Camera and lenses. 5 by 4 camera, dark-slides, lenses by good makers; state full particulars and price; approval.—W. Ray, Science School, Kidderminster.

Lancaster's 1889 Instantograph, half-plate, complete, in exchange for violin outfit.—Full particulars to George Packer, Porth, nr. Pontypridd, Glamorgan.

Camera Case.—Good half-plate camera case.—Description, with inside dimensions and lowest cash price, to G. W. Stephens, South Bank, R.S.O.

Dark-Slides.—To purchase, three half-plate double dark-slides, to fit Lancaster's 1888 Instantograph.—Apply, James Cottingham, 22, Station Row, Parkgate, Rawmarsh.

Hand-Camera.—Hand-camera, quarter-plate Facile or Ideal, latest pattern, perfect condition; approval.—Gardner, Eaglesbush, Neath.

Rouch's Eureka hand-camera; approval; deposit.—Particulars to Bartrop, 1, Albion Road, Clapham, S.W.

Lenses.—To hire, quarter W.A.R. lens for week; give 2s. 6d.; purchase if cheap.—Browne, Photographer, Margate.

Dallmeyer's half-plate wide-angle rectilinear lens, cheap; must be in good condition.—Bremner, 129, St. Mark's Road, North Kensington.

Quarter-plate Lancaster's Silver-ring Rectigraph lens; will give bluish-white electric pocket battery and appliances, quite unsoiled, cost £2.—E. Hill, 2, Wandle Villas, Wandle Road, Wandsworth Common.

Ross' or Dallmeyer's 10 by 8 or 8 by 6 R.R. lens; would exchange a valuable working model locomotive, 30 ins. in length, tubular boiler, two cylinders, each 1½ in. bore, and all usual accessories; full particulars on application; worth £25. Or a beautiful rook rifle, 300 bore, in leather case, with everything complete; cost £9, and has never been used; is quite new.—Dr. Collins, East Grinstead.

A Wray R.R. lens, 8 by 5, Iris diaphragm, in good order.—James Johnston, 17, Hamilton Drive, Hillhead, Glasgow.

Lens, etc.—Half-plate R.R. lens, by good maker, two double dark-slides, and tripod, cheap for cash; approval.—Ritchie, 7, Frederick Street, Edinburgh.

Lancaster's 10 by 8 instantaneous lens and shutter, in exchange for Optimus rapid rectilinear, 7 by 5, or offers.—T. Close, Heaton, Lancaster.

Negatives.—Good quarter-plate view negatives.—Particulars to X., 22, Northam Road, Southampton.

Photographs.—Half-plate photographs of English or Scottish ancient domestic architecture, in exchange for ecclesiastical or domestic ditto; lists sent; platotypes preferred.—W. Anderson, 40, Warwick Gardens, London, W.

Printing Frames.—Half-plate printing frames, in exchange for fishing rod, or gentlemen's gold ring; value 5s. each.—Sutcliffe, 12, Thorn Street, Burnley.

Sets.—Half-plate Watson's Acme Tourist camera, swing-back, Optimus R.R. landscape lens, and Thornton-Pickard time shutter; approval; deposit.—Carnegie, Eastleigh House, Eastleigh, South Hants.

Half-plate long extension camera, slides, and tripod.—Full particulars and price to Phillips, 19, Saxon Road, South Norwood.

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VOL. XI. No. 294.]

FRIDAY, MAY 23, 1890.

[PRICE TWOPENCE.]

✿ OUR VIEWS. ✿

To hold as 'twere the mirror up to nature."—*Shakespeare.*

It will be remembered that the Liverpool Amateur Photographic Association were made the custodians of the "Boston Set" of lantern slides, prepared by the members of the Boston (U.S.A.) Camera Club, which have been so much admired by members of societies and their friends in the United Kingdom. The Club have now sent a second consignment of lantern slides, and lecture, "The White Mountains," prepared by members, with prints and texts mounted, and seventy slides in a box. They are presented to the Liverpool Association, who will lend them for exhibition next winter. Early application is desirable, and the executive of the Boston Club particularly request that "Societies using the slides will mail any Press notices that may appear in the local papers."

* * * *

We have been asked to prepare exchange sets for Toronto and New York, and shall be pleased to receive not more than six slides from any lady or gentleman, to be included in the sets. We shall, in return, be able to loan the "sets" which are being prepared on the other side for us, and will be placed in our charge for loaning to societies and others next winter. A short description should accompany each slide. Places of historical note, celebrated houses, cathedrals, views in the chief touring districts, seaside resorts, studies of peasant life in England, Scotland, and Ireland, pictures of animal life, sporting, etc., will be acceptable. It is proposed to classify the slides under the following headings:—

Landscape and Seascape.
River Scenery; Architecture.
Figure Studies; Animals.

The "sets" should be made up by the 1st of September. Any surplus over and above those sent to America and Canada will be added to our loan sets here. We shall hope to have a better organisation next winter, and would suggest that early application for lantern slides be made. We shall keep the sets under the general headings enumerated above, and shall make them up in lots of 50, 100, and

150 slides, with lists giving titles, and in many cases short notes.

* * * *

At the *Conversazione* of the Royal Society given on the 14th inst., photography was the subject that most impressed the brilliant company assembled. Mr. Isaac Roberts, F.R.A.S., showed a plate about six inches square, a picture of three degrees of area on the heavens, upon which may be counted 20,000 stars; all of these the eye unaided has never seen. By exposing the same plate at different dates minute changes appear to be traceable; so that future astronomers may compare their records with these, and possibly get some light as to the real scattering of worlds in the province of the universe to which we belong. Professor Norman Lockyer, in the same way, has photographed the spectra of nebulae, and finds confirmatory evidence of his theory of the meteoric origin of suns. Mr. C. V. Boys and Professor Lodge have employed the camera and sensitive plate to take pictures of falling drops of water, the operation occupying the 800th part of a second.

* * * *

A SUBSCRIBER sends a silver print which "has been done over nine years." It has not lost a trace of tone, and is as bright and clear as the day it came out of the print washer. He says, "In my opinion the secret of getting permanent silver prints lies in using freshly sensitised paper, and thoroughly fixing the print in an alkaline hypo bath, to finish quickly, thoroughly washing the print in plenty of water." No better advice could possibly be given, and we hope first that workers will see that they get *fresh* paper, and secondly, that they will carry out the operations as carefully as our subscriber.

* * * *

THE subject of the permanency of prints brings to our remembrance a few remarks made by a gentleman of our acquaintance, whose grandfather, nearly ninety years of age, was recently photographed in the style of the day, "large, direct head, untouched." The photograph was a

LADIES' COMPETITION.—All photographs must be received by Saturday, May 31st, 1890.

good one, the features well delineated, each particular hair there, but, unfortunately, the fixing and washing were neglected, and the print is fading so fast that in a short time it will be of no value whatever. Much is said about the value of photography as a permanent record. If photographers will *deceive* the public for the sake of a gain of a few pence or the saving of an hour or two in the manipulatory processes, we are of opinion that they are unworthy of the confidence placed in them. In the case under consideration, the old gentleman cannot be expected to live many years, and his children, grand-children, relations, and friends are, of course, delighted to have his "photograph." But what mockery it is to sell them a thing that, notwithstanding all the advances and improvements in photography, does not remain a portrait for even a few years.

* * * *

WE note that a Camera Club has been formed in connection with the Birkenhead Y.M.C.A. Meetings are held on the first Monday in the month; Mr. Edward Whalley, an amateur worker of many years' experience, has been elected President; and Mr. J. C. Walker, Hon. Secretary, will give every information; his address is 42, Conway Street, Birkenhead.

* * * *

NEXT week we shall publish an article upon "Printing on Obernetter Paper," giving the most complete instructions for procedure.

* * * *

THE business of Messrs. Samuel Fry and Co., Limited, was offered at auction yesterday, the 22nd inst. At the time of going to press we do not, of course, know whether the property was sold. The plates and paper made by Messrs. Fry and Co. have obtained, deservedly, a very high reputation, and in enlarging work they could hardly be surpassed. We regret very much that it should have been necessary to wind up the concern. We understand that it is quite possible the business may be carried on.

* * * *

"OPTICAL TOURS," at the International Cyclorama Hall, 84, Oxford Street, W., are one of the sensations of the season; the programme is changed every week. The admission for one "tour" is 6d., two 1s. During the present week there is a "tour" of fifty pictures in North America and Niagara in Winter, and a "tour" in the Holy Land. Apart from being a successful entertainment for the sight-seer, these "tours" are most instructive to parents and their children. We venture to predict that they will be very largely attended.

* * * *

THE delightful summer trips on the river Thames in the steamboats plying from Oxford to Kingston will commence on Monday next. The boats leave Oxford and Kingston every Monday, Wednesday, and Friday for Henley, where they stay the night, leaving on Tuesday; Thursday, and Saturday for Kingston and Oxford. It is almost impossible to imagine for the amateur photographer a more delightful two days' holiday, given fine weather. Through the courtesy of Mr. Salter, we shall hope in the course of a week or so to make the trip, and will then give "Our Views" upon the matter more fully. In the mean-

time we are sure that those who have not "done" the Thames will be delighted.

* * * *

WE have been honoured by a visit from the distinguished member of the Vienna Photographic Society, Herr Carl Ulrich, who advises us that it is the intention of the Society to hold a "Photographic Salon" in April of next year. The Council of the Society will, we understand, invite exhibitors. Further particulars will be announced in these columns. The Council are very anxious to secure the best photographic work.

* * * *

WE are asked by the Managers, to announce that all the medals awarded at the recent Crystal Palace Photographic Exhibition have been sent to prize winners.

* * * *

CHEAP journalism is the rage of the day, and photography is utilised in many ways, but *Short Cuts* (a halfpenny paper) is the first, to our knowledge, to start a "Great Photographic Competition." They are offering Mawson and Swan's "Popular Set," value £7 16s. 6d., for the best short answer to the question, "What are the best uses to which photography can be applied?" The conditions of the competition are of course to be found in *Short Cuts*, which, by the way, is a most excellent weekly journal, admirably printed on good paper, and containing most instructive and entertaining matter. To our mind it is a most marvellous production for one halfpenny.

* * * *

WE would again draw attention to the fact that Fellows of the Royal Geographical Society are desired to forward copies of any photographs they may have taken during their travels, to the Map Curator of the Society, by whom they will be acknowledged. Should the donor have purchased the photographs, he is requested to give the name and address of the photographer, for purposes of reference. The object of the society is to add as much as possible to the collection of photographs which has been established in the map-room at their offices.

* * * *

NEXT week we shall give "our views" and the experiences of several of our subscribers on the system upon which Mr. F. D. Bulmer, of Dewsbury, does his business. We shall be pleased to hear from any of our readers who have done business with Mr. Bulmer, in order that we may give him every benefit possible in summing up the case.

* * * *

WE have received a long letter from a member of the C. T. C., really only covering the same ground as Mr. Shipton, so that we do not feel disposed to occupy our space by inserting it, especially as it is contributed under a *nom de plume*, with the exception of the concluding paragraph, which reads: "Finally I am bound to confess that I think that the C. T. C. has been brought before amateur photographers by your action, and I believe that the result will be that many will become members of that body for this reason. I am unwilling to think that many amateurs would try to induce hotel-keepers to break their legal contracts, when the same, and I may say treble, advantages are to be gained by joining the Cyclists' Touring Club for

the small payment of 2s. 6d. a year." We trust that Mr. Shipton will now be satisfied that though one of the first laws of our life is *self-advertisement*, by which means we have made the AMATEUR PHOTOGRAPHER and our other publications known all over the world, we are not above giving "bold advertisement" gratuitously to others.

* * * *

MONTHLY COMPETITION No. 12.

INSTANTANEOUS PHOTOGRAPHS, ANIMALS, ETC.

The prints sent in for this competition are of very unequal merit, but there has been no difficulty in finding photographs worthy of the first and second prize, and we have selected several for honourable mention.

The first prize, the AMATEUR PHOTOGRAPHER Silver Medal, with ribbon and clasp, has been awarded to

A. W. GOTTLIEB (Shrewsbury),

for his capital study of a dog sitting on a pedestal, which he entitles "Real or Imitation." The dog is exceedingly well depicted. The photograph was taken with a Dallmeyer 3 B lens working at full aperture, with an exposure of one-tenth of a second on an Ilford rapid plate. The dog, we understand, was exceedingly restless and nervous, so enhancing considerably the truthfulness of the picture.

The second prize, of a Bronze Medal with ribbon and clasp, has been awarded to

EVAN GRIFFITHS (St. Columb),

for an exceedingly carefully taken photograph of a flock of geese. This picture was taken with a Darlot's whole-plate R.R. lens on an Ilford ordinary, the exposure being a "quick cap." In the flock there are some fifteen geese, each one taken quite sharp, and without a sign of movement. They were evidently caught "at attention," and as an instantaneous picture the result is admirable.

We have chosen the following for honourable mention, and place Mr. J. O. Bury's "Alderney Bull" first. This picture is on Aristotype paper, which gives almost the same colour as the animal's skin, and, being a matt-surface, a soft velvety texture. The negative was taken with a Ross R.R., working at $f/16$, on Wratten and Wainwright's drop-shutter plate. In a note, Mr. Bury says, "Printing process, Aristotype paper, toned with chloro-platinite of potassium, squeegeed on ground glass. The exact colour of the animal is reproduced by this toning process."

Next in order we consider "Study of Swans at Weymouth," by Edgar F. Blow (a member of the Croydon Camera Club). This picture, which is very good, was taken by an Optimus R.R., working at full aperture, $f/8$, with an exposure of one-tenth of a second on an Ilford ordinary. Ordinary albumenised paper, toned with acetate of soda. The swans are all fairly sharp, but the plumage is not so well defined as in Mr. Griffiths' "Geese."

Mr. H. H. Hammond, of Southsea, sends a photograph of a "Gymnast in mid-air turning a somersault." This picture is very clever, but we note signs of touching out, though taken altogether it is certainly amongst the best of the kind we have seen. It was taken with a Ross R.S. with full aperture, a Caldwell's shutter and a XXXXX times Paget plate.

Mr. Alexander Thomson, of Paisley, contributes a photograph, "Feeding the Pups." This was taken with R. R. lens working at $f/8$, on a Thomas rapid plate. The print, which is not of good tone, is on Obernetter paper.

The next we call attention to is "Tossing the Caber at a Highland Gathering," by Mr. Francis G. Smart, Tunbridge Wells; this picture would have been improved if the author could have been nearer to the man in the act of "tossing the caber," and we must complain of the excess of foreground. It was taken with a Ross 10 by 8, working at $f/11.2$, on a Mawson plate.

Mr. Charles L. Mackley, Lake of Constance, has sent us a happily caught picture which he calls "An Intruder." Two cats are sitting by the window sill, and a young goat has jumped up, possibly "to ask a question." The pussies are in the act of resenting the intrusion. As a subject the picture is most interesting, but as a photograph it is not up to Mr. Mackley's contribution last month; he has used a Ross R.R., giving half-second exposure on a Carbutt's celluloid films.

Many of the other contributions, which are all acknowledged in another column, have very good points. We shall hope as the season advances to have a larger number of prints entered for our Monthly Competitions.

* * * *

THE ROYAL ACADEMY.—I.

It might be asked what right we photographers have to dare to criticise the works of presumably our best artists, of those who being privileged to exhibit at the Royal Academy are the present-day exponents of art principles and practice. To those who put to us such a question we have an answer to give; first, when we point to the pictures of such men as Sutcliffe among the professionals, and of many an amateur whose works are known to all students of the AMATEUR PHOTOGRAPHER, and frequenters of our exhibitions. Such men show very often high artistic excellence in a skilful and thoughtful manipulation of the weapons in the photographic armoury, and if our artists would take the trouble to study some of the best work achieved by photography, they would find that in some points where artistic skill is required in reproducing the truths of nature—and where are they not required?—they have something to learn which the most accurate drawing and the most technically perfect painting cannot teach them.

True, the art world is beginning to recognise that veritable artistic merit can be exhibited in a photograph, and while the iron is hot we photographers must strike it, and in season and out of season insist that much incorrectness in perspective and proportion, much false value in the massing of light and shade, much that is untrue in the attempt to render nature away from her actual presence, can be corrected by an appreciative use of photography; and further, we would see—and indeed we look forward to—the day when photography shall no longer be regarded as the slave of art, to be used, perhaps, and then thrown aside, but shall be recognised as a sister, if only as a foster-sister, of drawing and of painting, and occupy her own niche in the Temple of Art.

Whatever may be said about the nature of Art, whatever definition may be attempted, whatever may be the object in view, we maintain that a more or less truthful representation of nature is at the bottom of it all. Even the most confirmed idealist must acknowledge his debt to nature; he cannot paint his ideal gods and goddesses in human form, without the conception of some human form of nature's workmanship before the mind's eye, at least

The conception of all ideals must have their root in nature, even in such a picture as "Davy Jones's Locker" (No. 81), which Mr. Wyllie has given us this year, portraying a subject which the artist can hardly have seen in nature. Photography cannot produce the pure ideal of the soul, but it can give the idealist the basis thought of his conception; and for us who maintain that the more of nature and the less of the ideal a picture contains the nearer it approaches true art, photography is an engine of first-rate necessity, for photography "transcripts" nature, photography is hampered and hedged in by no hard-and-fast rules of the schools, has no traditions, and is as free in its method as the nature it seeks to portray.

After defending our position let us take a glance at the chief picture show of the year—the Royal Academy—a general view at first, because we hope on some future occasion to examine the pictures more in detail. There is one fault in the Exhibition, that recurs as regularly as the Royal Academy itself, namely, the excess of portraits. We were so struck with the oft-repeated occurrence of ladies in gorgeous gowns, of soldiers, of academical celebrities, and of ecclesiastical dignitaries, to say nothing of the children and the host of unknown nobodies the catalogue recorded, that we took the trouble to count all those canvases purporting to be portraits, and found that in a total of 1,172 pictures distributed throughout eleven rooms, no less than 186 came under that denomination, or, in other words, 16 per cent. of the pictures are portraits. Now that is not as it should be, and can only be attributed to the fact that art is too often pursued for the sake of the loaves and fishes rather than for its own sake, and that the Royal Academicians encourage this sordid element by hanging portraits, which in many cases, from an art point of view, have certainly no merit. Take 191 as an instance; it may be a good likeness, but the background of the most conventional old-fashioned studio pattern, and the whole pose, with its affectation and stiffness, stamps the work as labour wasted on a result which cannot but be characterised as a qualified failure.

There are, of course, notable exceptions, and there is many a portrait that is a grace to the Exhibition, *i.e.*, those of the Bishops of Chichester (197) and St. Albans (117), by Mr. Oulless, and more especially Mr. Richmond's portraits of both the late and present Bishops of Durham (166 and 124). We want someone to create an agitation against this excess of portraiture, just as that which the "British Matron" started against the nude; and, indeed, such an agitation is more called for, and should have as great an effect, if we may judge of that effect by the absence of the nude in this year's Academy—a matter, perhaps, in some respects to be regretted, for it is to be remembered that the nude *can* be painted with reserve and even with modesty, which fact is, indeed, manifested (with one exception) in such studies as are to be found this year at Burlington House. The President's pictures exhibit that studious care and accuracy with which he always renders the human form, whether clothed or unclothed, for he at least realises the necessity for studying from the nude even for an accomplished painter (the *Art Journal* publishes reproductions of his preliminary sketches for two of this year's pictures). "Solitude" (166) appears to us the most satisfactory of Sir F. Leighton's work this year. The figure is as full of grace as of poetry.

Perhaps the two greatest dramatic pictures are "The Redemption of Tannhäuser" (203), by Frank Dicksee, and the "Death of Cleopatra" (551), by Hon. John Collier, about which we hope to say something on a future occasion; they are both admirable in their special ways. "Whitehall" (216), representing the scene of the execution of King Charles I., whatever faults it may have, stirs up that righteous indignation which should find a place in every loyal Englishman's heart when he is reminded of this crime that stains the pages of our national history. Nor must we forget Sir John Gilbert's "Onward" (186), a marvellous conception full of warlike life.

The animal subjects are not very numerous. Mr. Trood, who also exhibits some good sketches of dog life at the Grosvenor, has a clever picture entitled, "Six to One on the Rabbit" (184), but we must leave it to the experts in instantaneous photography of animals to say whether the attitude of the foremost terrier is correct or not.

Besides the dramatic pictures mentioned above, there are many others which tell a story, and of these "The Sculptor" (270), by J. B. Burgess, and "Louis XI." (291), by Seymour Lucas, are full of feeling.

There is no sort of doubt that however much Continental art critics may insist upon the commonplaceness and mediocrity of English art, there is one branch in which we excel all the nations of the world, and, moreover, it is just that branch in which nature has to be most closely followed in order to attain success, and, therefore, in which artists can be most assisted by photography, namely, landscape and seascapes. We may readily grant to the French that we cannot produce a portrait painter to equal Bonat, or to the Germans that we have no one with the same originality of genius as some of their artists (though even if we had it is at least doubtful whether the latter would find a place on the walls of the Royal Academy), but to no nation will we yield our supremacy in landscape whilst Vicat Coles can produce such a picture as "The Meeting of the Thame and the Isis at Dorchester" (234), whilst Henry Moore can paint such a sea piece as "Summer Time, Channel Islands" (257), whilst we still have Leader with us (131, 458, 672), and whilst an artist not yet an Academician can send us such a really beautiful and truthful piece of work as "The White Mill" (43).

Sometimes even a good landscape is spoilt by striving after an effect which the artist thinks will improve his picture, but which his imagination, and not nature, provides him with. Witness No. 715, "A Bend in the Avon." The artist has painted in, on the waters of the river, a reflection of a red cliff which could only be in reality reflected on that part of the river's surface which is beyond the bend, and therefore out of the spectator's sight. But this is not the work of one of the great masters of landscape, and it is through them, and not through the lesser lights, that the Academy teaches us the most important lessons. We fearlessly challenge their criticism of our photographs from the point of view of art alone, and we maintain that if they find mediocrity amongst us, that is a fault we have in common with them; but that if they will deign to study our best works they will find much that is really excellent from which they may derive benefit, in the same way as we do from their masterpieces, and that from such peaceful rivalry and friendly criticism a true brotherhood in art may arise.

Register of Dark-Rooms, 1890.

THE following "Dark-Rooms" have been placed at our disposal.

We class them in four divisions, *i.e.*, *a* amateur, *d* dealer or professional, *h* hotel, and *s* photographic society.

In our letter of introduction full particulars are given as to owner, address, charges (if any); plates, chemicals, etc., kept by dealers; terms for temporary membership of societies; hotels; distance from station, etc., etc.

Every application for letter of introduction must be accompanied by SIX PENNY STAMPS. The owner of "Dark-Room" will be advised by same post as the applicant.

<i>d</i> Aberdeen	<i>a</i> Chesterfield
<i>d</i> Aberystwith	<i>a</i> Chipping Sod-
<i>d</i> Addingham	<i>a</i> bury
<i>d</i> Amble	<i>d</i> Cinderford
<i>d</i> Andover	<i>d</i> Cirencester
<i>a</i> Aylesbury	<i>h</i> Cirencester
	<i>s</i> Cleckheaton
<i>d</i> Barmouth	<i>d</i> Clevedon
<i>a</i> Barnsley	<i>d</i> Clifton
<i>d</i> Bath	<i>a</i> Clitheroe
<i>s</i> Bath	<i>d</i> Colchester
<i>h</i> Beaconsfield	<i>d</i> Colchester
<i>a</i> Bedford	<i>h</i> Colnbrook
<i>d</i> Belfast	<i>d</i> Colwyn Bay
<i>s</i> Belfast	<i>a</i> Coniston
<i>d</i> Bergen, Norway	<i>d</i> Crewe
<i>d</i> Berlin, Germany	<i>s</i> Crewe
<i>h</i> Bex, Switzerland	<i>d</i> Crewkerne
<i>d</i> Birmington-on-	<i>d</i> Croydon
<i>a</i> Sea	
<i>a</i> B'rmingham	<i>a</i> Dalton-in-Fur-
<i>d</i> Birmingham	<i>a</i> ness
<i>d</i> Birmingham	<i>d</i> Darlington
<i>s</i> Birmingham	<i>d</i> Darlington
<i>h</i> Bodiam	<i>h</i> Dartmouth
<i>d</i> Bodmin	<i>h</i> Derby
<i>h</i> Boro' Bridge	<i>a</i> Devizes
<i>d</i> Bournemouth	<i>a</i> Doncaster
<i>d</i> Bournemouth	<i>d</i> Douglas, Isle of
<i>d</i> Bradford	<i>a</i> Man
<i>d</i> Bradford	<i>a</i> Douglas, Isle of
<i>d</i> Bradford	<i>a</i> Man
<i>d</i> Bramley, near	<i>d</i> Dover
<i>a</i> Leeds	<i>d</i> Dublin
<i>h</i> Brechin, N.B.	<i>d</i> Dublin
<i>d</i> Brechin, N.B.	<i>d</i> Dublin
<i>d</i> Bridlington Quay	<i>h</i> Dunblane, N.B.
<i>d</i> Bridlington Quay	<i>d</i> Dundee
<i>h</i> Brigg	<i>s</i> Dundee
<i>d</i> Brighton, Hove	<i>a</i> Dungarvan
<i>d</i> Brighton	<i>a</i> Duns
<i>d</i> Brighton	<i>d</i> Durham
<i>d</i> Bristol	
<i>d</i> Bristol	<i>h</i> East Grinstead
<i>h</i> Broadway,	<i>h</i> Ebbw Vale
<i>a</i> Worcester	<i>d</i> Edinburgh
<i>d</i> Bromley	<i>d</i> Edinburgh
<i>h</i> Brough	<i>d</i> Edinburgh
<i>s</i> Burnley	<i>d</i> Edinburgh
<i>d</i> Burslem	<i>s</i> Egremont
	<i>a</i> Enfield Town
<i>a</i> Cadiz, Spain	<i>a</i> Evesham
<i>h</i> Callender, N.B.	<i>d</i> Evesham
<i>h</i> Camborne	<i>d</i> Exeter
<i>d</i> Cambridge	
<i>h</i> Cambridge	<i>s</i> Falkirk
<i>h</i> Capel-Curig, N.W	<i>d</i> Falmouth
<i>a</i> Chalfont St.	<i>d</i> Faversham
<i>a</i> Peter	<i>d</i> Felixstowe
<i>d</i> Cheltenham	<i>d</i> Finchley
<i>d</i> Cheltenham	<i>h</i> Fochabers, N.B.
<i>d</i> Chepstow	<i>d</i> Folkestone
<i>d</i> Chester	<i>a</i> Four Ashes, near
<i>d</i> Chester	<i>a</i> Enville

<i>a</i> Frodsham	<i>a</i> Galashiels, N.B.
<i>h</i> Giant's Causeway	<i>h</i> Ireland
<i>d</i> Glasgow	<i>d</i> Glasgow
<i>d</i> Glasgow	<i>d</i> Glasgow
<i>s</i> Glasgow	<i>d</i> Gloucester
<i>d</i> Gloucester	<i>d</i> Gorleston
<i>a</i> Goring	<i>a</i> Gravesend
<i>d</i> Great Yarmouth	
	<i>a</i> Halifax
<i>a</i> Handsworth	<i>a</i> Hanley
<i>a</i> Hanley	<i>d</i> Harrogate
<i>d</i> Hastings	<i>h</i> Hastings
<i>s</i> Havant	<i>d</i> Hereford
<i>d</i> Hereford	<i>d</i> Hexham
<i>h</i> Holbeach	<i>d</i> Huddersfield
<i>d</i> Hull	<i>a</i> Hull
<i>d</i> Hull	<i>a</i> Hull
<i>d</i> Ilfracombe	<i>d</i> Ipswich
<i>d</i> Ipswich	<i>s</i> Ipswich
	<i>d</i> Jarrow
<i>d</i> Jersey	
	<i>d</i> Keighley
<i>d</i> Keighley	<i>s</i> Keighley
<i>s</i> Kendal	<i>a</i> Kimberley
<i>d</i> King's Lynn	<i>a</i> Kingstown, Dublin
<i>a</i> Lancaster	
<i>d</i> Lancaster	
<i>d</i> Lancaster	
<i>d</i> Larne	
<i>d</i> Leamington	
<i>h</i> Leamington	
<i>d</i> Leeds	
<i>d</i> Leeds	
<i>d</i> Leeds	
<i>a</i> Leeds	
<i>d</i> Leicester	
<i>d</i> Leicester	
<i>d</i> Leicester	
<i>a</i> Leicester	
<i>a</i> Lenzie, N.B.	
<i>d</i> Leytonstone, Es-	
<i>s</i> sex	
<i>d</i> Lincoln	

<i>d</i> Liverpool	<i>d</i> Norwich
<i>d</i> Liverpool	<i>d</i> Nottingham
<i>s</i> Liverpool	<i>a</i> Nottingham
<i>d</i> Llandudno	<i>d</i> Northallerton
<i>h</i> Llanidloes	
<i>d</i> London, Alders-	<i>a</i> Oban
<i>a</i> gate, E.C.	<i>s</i> Oldham
<i>a</i> London, Blooms-	<i>a</i> Oxford
<i>a</i> bury	
<i>d</i> London, Borough	<i>h</i> Paignton
<i>S.E.</i>	<i>h</i> Paisley, N.B.
<i>a</i> London, Chelsea	<i>d</i> Penrith
<i>d</i> London, Fen-	<i>d</i> Penzance
<i>a</i> church Street,	<i>d</i> Pershore
<i>E.C.</i>	<i>a</i> Perth
<i>d</i> London, Fleet	<i>a</i> Poole
<i>a</i> street, E.C.	<i>h</i> Port Erin, Isle of
<i>d</i> London, High-	<i>h</i> Prince's Risboro'
<i>a</i> gate	
<i>a</i> London, High-	
<i>a</i> Bridge	<i>d</i> Reading
<i>d</i> London, New	<i>h</i> Redcar
<i>a</i> Cross	<i>h</i> Redditch
<i>d</i> London, Wal-	<i>h</i> Rhayader
<i>a</i> worth Road,	<i>d</i> Richmond, Surrey
<i>S.E.</i>	<i>a</i> Ringwood, Hants
<i>a</i> Long Eaton	<i>d</i> Rochdale
<i>h</i> Long Melford	<i>a</i> Romford
<i>d</i> Loughborough	<i>d</i> Royston
<i>a</i> Louth	<i>d</i> Ryde, Isle of
<i>a</i> Ludlow	<i>h</i> Wight
<i>d</i> Lynn	<i>h</i> Ryde
<i>a</i> Lythe, Whitby	
	<i>a</i> St. Agnes
<i>h</i> Macroom, N.B.	<i>h</i> St. Asaph
<i>a</i> Madeley, Salop	<i>d</i> St. Bees
<i>d</i> Maidenhead	<i>a</i> St. Helens
<i>d</i> Manchester	<i>d</i> St. Heliers
<i>h</i> Mallow	<i>a</i> St. Ives
<i>a</i> Malta	<i>d</i> St. Leonards
<i>d</i> Malvern	<i>h</i> St. Mellons
<i>d</i> Mansfield	<i>h</i> St. Neots
<i>d</i> Margate	<i>d</i> Sandgate
<i>a</i> Mayence	<i>d</i> Sandown, Isle of
<i>h</i> Merthyr Tydfil	<i>h</i> Wight
<i>d</i> Merton	<i>a</i> Scarborough
<i>d</i> Minehead	<i>a</i> Scarborough
<i>h</i> Monmouth	<i>d</i> Scarborough
<i>d</i> Montrose, N.B.	<i>a</i> Shaftesbury
<i>d</i> Mountsorrel	<i>d</i> Shanklin, Isle of
<i>a</i> Mumbles, near	<i>h</i> Wight
<i>a</i> Swansea	
	<i>a</i> Sheffield
<i>d</i> Newark	<i>d</i> Sheffield
<i>h</i> Newbury	<i>d</i> Sheffield
<i>d</i> Newcastle-on-	<i>h</i> Shepton Mallet
<i>a</i> Tyne	<i>d</i> Shrewsbury
<i>d</i> Newcastle-on-	<i>h</i> Sleaford
<i>a</i> Tyne	<i>h</i> Southampton
<i>d</i> Newport (Mon.)	<i>d</i> Southampton
<i>a</i> Niton, Isle of	<i>h</i> Southend-on-Sea
<i>a</i> Wight	<i>a</i> Southport

<i>d</i> Southsea	<i>d</i> Taunton
<i>s</i> Southsea	<i>a</i> Tavistock
<i>a</i> Stamford	<i>a</i> Thornton Dale,
<i>a</i> Steyning	<i>h</i> nr. Pickering
<i>d</i> Stockton-on-	<i>h</i> Thorpe
<i>a</i> Tees	<i>h</i> Tintern Abbey
<i>a</i> Stoney Stratford	<i>d</i> Torquay
<i>a</i> Stourbridge	<i>d</i> Torquay
<i>d</i> Stourbridge	<i>h</i> Torquay
<i>d</i> Stratford-on-	<i>h</i> Tring
<i>a</i> Avon	<i>d</i> Tunbridge Wells
<i>h</i> Stratford-on-	
<i>a</i> Avon	<i>s</i> Uttoxeter
<i>d</i> Stroud	
<i>h</i> Sudbury, Suffolk	<i>a</i> Vienna
<i>d</i> Sunderland	
<i>d</i> Swindon	<i>h</i> Wadebridge
	<i>d</i> Wakefield
	<i>h</i> Warwick
	<i>a</i> Waterford
	<i>d</i> Waterford
	<i>a</i> Wellington,
	<i>a</i> Salop
	<i>s</i> West Hartlepool
	<i>d</i> Weston-super-
	<i>a</i> Mare
	<i>h</i> Wetwang, York
	<i>d</i> Weymouth
	<i>d</i> Whitby
	<i>d</i> Whitby
	<i>d</i> Wimbledon
	<i>h</i> Windsor
	<i>d</i> Windsor and
	<i>a</i> Eton
	<i>d</i> Wisbech
	<i>a</i> Wolverhampton
	<i>d</i> Worcester
	<i>h</i> Worthing
	<i>d</i> Worthing
	<i>s</i> York
	<i>d</i> York
	<i>a</i> York
	<i>d</i> Youghal

Letters to the Editor.

STEREOSCOPIC EFFECT ON THE SCREEN.

SIR,—To judge by the queries appearing from time to time in your columns, the accomplishment of the above object must possess considerable fascination for many of your readers, but from all I can gather of the subject we have yet to see an experiment carried to a successful issue.

The effect would doubtless be obtained by the projection of a pair of stereoscopic images side by side on the screen, and viewing them through a pair of suitable prisms to make the images coincide, but an arrangement on the following lines would give the required result from superimposed images.

Immediately in front of the lenses of a biunial lantern carrying a pair of stereoscopic slides, let there be fixed a circular disc of thin metal or vulcanite, and of sufficient diameter to little more than cover both lenses. Close to the edge, and at an angular distance of 72 degs., are five apertures, so that when the

disc is revolved first one image and then the other would be thrown on the screen, one picture being entirely cut off before the other begins to appear.

What is necessary now is an apparatus to hide the picture from first one eye and then the other; and the most feasible plan I can think of is as follows:—A strong and permanent rail is fixed across the room at a height of about four feet, and on the top of this rail are firmly secured by the edges two thin flat strips of well-seasoned wood, two inches wide, of the same length as the rail and with a space of about one-thirty-second of an inch left between. Every three feet or so a pair of one-inch view-holes are bored side by side through both strips, each pair being about three inches apart, and of the same level as the eye of the seated spectator. A light steel rod is carried on suitable bearings either on or under these strips, and this rod carries a number of light metal plates about four inches long. These plates work between the two wooden strips, so that when the steel rod is moved to and fro longitudinally the metal plates cover first one and then the other of each pair of holes exactly at the same time. The movement of the steel rod could be obtained by means of a small eccentric at one end and working on a light rotating shaft, which, by suitable gearing, would be connected with the disc at the lantern, and would revolve five times to the disc once.

Now if the disc at the lantern be made to revolve at a speed of 120 per minute each of the stereoscopic pictures would appear and disappear in turn ten times in one second, which, owing to the persistence of vision, would produce the same effect as the superimposition of one picture on the other, but, of course, not so brilliantly lighted; but by looking at the screen through a pair of "view-holes," the oscillating metal plates being properly adjusted, the pictures would be completely separated, each eye having a picture to itself, and the result would be perfectly stereoscopic.

The mechanical difficulties are considerable, but they are certainly not insurmountable, and if the synchronisation of the revolving disc at the lantern and the oscillating metal plates could be effected by electrical means instead of light toothed gearing, the great objection as to the permanency of the viewing apparatus would be disposed of.—Yours, etc., THE SMITH.

* * * *

F. D. BULMER.

SIR,—In my opinion you are rendering a great service to amateur photographers generally in exposing such shady practices as those of F. D. Bulmer. Some little time ago this gentleman (?) replied to my advertisement in your Sale and Exchange columns, and accordingly a camera, etc., were sent to him on approval. In spite of repeated protests, the goods were detained between three and four weeks, and were only returned, piecemeal fashion and the *worse for wear*, under threat of legal proceedings. I enclose my card.—Yours, etc.,

* * * *

ANOTHER VICTIM.

THE KODAK LENSES, ETC.

SIR,—In your last week's issue I notice that the Eastman Company take exception to certain statements of mine, anent the character and cost of camera lenses in general, and in particular of those of the first Kodak cameras. Mr. Walker affirms that the first or No. 1 Kodak lenses are "specially manufactured" and at "great cost." I accept the statement of Mr. Walker that the Company do pay more for their lenses, having no means of gain-saying so positive a statement, and, so far, amend my article; but this I repeat, that sufficiently deep meniscus or periscopic lenses, able to do very similar work to those of the Kodak, can be bought, not at the extravagant price of 6d. each, which I put them at, but at 3d. each. I may add, in conclusion, that if my remarks seemed to specialise the Eastman Company's cameras it was only by accident, as being, perhaps, the best known specimens of the class of cameras I was alluding to.

I would add, however, that I entirely agree with the views of "F. G. B.," "T. D.," and "S. E. K.," that the cost of hand-cameras is out of all reasonable proportion. In the cases of some few, of complicated and delicate mechanism, a justification for a certain enhanced price is, of course, obvious, but this only to a moderate extent, in view of the immense advances in mechanical appliances and tools, enabling cheap production, of the present day. Witness, for example, the price at which watches

can now be sold—silver, 25s., and even a trustworthy and admirable watch, in metal, can be bought of the Waltham Co. for 12s. Yet none of the existing cameras approach a watch in the complication and delicacy of their mechanism. I should add that exception for high cost might be allowed in the cases of the more complicated cameras, when the first cost is relatively high in order to reimburse the inventor's experimental outlay. Our hand-camera makers almost generally seem to have forgotten an old commercial saw which reflected on the superior profitability of the nimble sixpence over the slow shilling, and thus fostered the habit of amateurs of making investigations into camera construction, in order to make for themselves what is put on the market at prohibitive prices. Apologising for troubling you at this length, I am, yours, etc.,

F. T. NORRIS.

May 20th, 1890.

SIR,—With respect to the Kodak cameras and their lenses, will you allow me as an engineer to say a word?

One of the earliest I worked during an extensive tour in Italy last year, with a result of seventy good pictures in a hundred exposures. The mechanism I consider perfect. The outside finish is far above the European style, and the lens (for a photographic sketch-book) good.

I am now working one of Beck's quarter-plate hand-cameras, with its splendid lens and mechanism, with great satisfaction, but in addition shall try, for certain so-called "detective" work in Egypt, one of the Eastman Company's large Kodaks.—I am, Sir, yours, etc.,

H. CAMPBELL THOMPSON, Assoc. Mem. Inst. C.E.

May 15th, 1890.

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DARK-ROOMS REGISTER.

SIR,—If the organising of dark-rooms, etc., is to be left to associations who from their very constitution are raised above the purely commercial element, then Mr. Shipton and his Cyclist Touring Club ought not to have a finger in the pie, for a more essentially commercial affair I do not know; even its own members and the cycling papers speak of it as the "C. T. C. shop."

Mr. Shipton carries his commercialism still further. He endeavours to use his position as Secretary to the C. T. C., and what he is pleased to consider his "position as a representative man in the amateur photographic world," to obtain from dealers and manufacturers reduced prices for the goods he needs for his personal use. His sneer, therefore, at the trade instincts which must of necessity be present in any undertaking not purely philanthropic is much out of place. Don't you see where the cloven hoof peeps out? The rule of his club, which he quotes, runs: "That he will charge the said reduced tariff only to the bona-fide members of the C. T. C." Now if you put your readers in the way of obtaining the use of dark-rooms without the help of the C. T. C., you rob that club of so many possible subscription fees, and here's where the shoe pinches.—Yours etc.,

JAN.

SIR,—I shall be spending three or four days at Whitsuntide in North Carnarvonshire, and I regret to see that neither Bangor, Carnarvon, nor Llanberis are mentioned in your list of dark-rooms.

I mention this as I think it possible that you may know of some one there, but have not yet had permission to print his name, and that very likely I may be of some use to you there, as well as myself benefiting by your institution.

Do you rely upon your subscribers giving you the names of those willing to provide the convenience?—I am, sir, yours, etc.,

May 20th, 1890.

F. HOPE-JONES

(Member of the Liverpool Soc., on the Council of the Birkenhead Soc.)

NOTE.—No dark-room is added to our register without the signed consent of the owner.—Ed. "AM. PHOT."

* * * *

DISTRICT EDITORS.

SIR,—I have been considerably amused as a journalist by the letters on "District Editors." I, of course, am an amateur photographer, but must confess that I do not see the necessity for a reporter at a photographic meeting being a photographer. Pressmen have every day of their lives to report—and to report

intelligently and correctly—meetings of a technical kind, although they have no practical knowledge of the subject. There is, in my humble opinion, every reason why a journalist should be more impartial than most people, and that is because he diurnally has to give entirely unbiassed reports of public meetings. Take the reports of any respectable organ, and you will find that, whatever may be the case with leaders and other discursive articles, the reports are fair and accurate. I certainly think with "A President" that there might be some difficulty about the honorarium, but there is a still more knotty point—an "attached" Pressman has to hold himself in readiness to post off to a meeting for the paper to which he is reporter five nights out of six, and would not be permitted to enter into a contract to attend periodical gatherings for an outsider, because the meetings would clash. As for "unattached," they are of two classes—those who would "scorn the action" of taking on a job of so small and unremunerative a kind, and those who would not be worth employing.

It seems to me there are but two alternatives—one to employ amateur reporters, the other, somewhat too vast an undertaking to be entertained, viz., to keep a large staff of travelling reporters on the paper in which the reports are to appear.—Yours, etc.,

May 16th, 1890.

JOURNALIST.

SIR,—In answer to "Vice-President's" strictures, I am not "particularly affected," and the "shoe pinched" nowhere. I did not withdraw my name because I "cannot with fairness" represent my society. I have no inclination to bandy imputations with your correspondent, much as he deserves a *quid pro quo*, and, with your permission, will remain content to bring the correspondence to a conclusion by simply confirming my previous letter.—Yours, etc.,

A PRESIDENT.

* * * *

PHOTOGRAPHIC SURVEYS.

SIR,—Annexed I beg to hand you copy of letter sent this day to the Secretary of the Birmingham Society. *Vide* your report in last issue.—Yours faithfully,

May 19th, 1890.

CHAS. B. READER (Hon Sec.)

Birkenhead Photographic Association,
"Mountside," Rowson Street, New Brighton,
May 19th, 1890.

The Secretary, Birmingham Photographic Society.

Dear Sir,—I am requested to draw your attention to the fact that in claiming originality for the photographic survey of Warwickshire scheme, your Chairman (of the 8th inst.) does the above Association an injustice.

The Birkenhead Photographic Association was the first photographic association in the world to undertake work of this nature, and its survey of the Hundred of Wirral is now an accomplished fact, having been completed last year.

I trust you will seize every opportunity of correcting the false impression that may have been created.—Yours faithfully,

CHAS. B. READER (Hon. Sec.)

* * * *

LIGHT IN THE DARK-ROOM.

SIR,—The proof of the pudding is in the eating," and I never felt the truth of this old proverb so much as when I read Mr. C. J. Davies' letter in your edition of the 16th inst. I do not for one moment doubt the correctness of the chemical equations, nor would I dream for one moment of entering into an argument as to the correctness of anything contained in Captain Abney's "Treatise on Photography," but until Captain Abney or Mr. C. J. Davies can show me a negative which, after being developed, properly washed, and fixed in daylight (or sunlight, if preferred), shows signs of fog, either directly or after some years, I shall continue to fix my plates, etc., not in that "stuffy dark-room," but in actinic light, either directly after washing, or for some hours after, thus adding at least a little comfort to the work that has of necessity to be done (in most cases) in very close quarters. Mr. Davies did not see the necessity to comment on the danger incurred where the formation of a highly insoluble double hyposulphite of silver and sodium compound is permitted, but I think he ought to have done so and pointed out in what direction the danger tends to develop itself. If he is afraid of fog I can show him negatives absolutely clear; if he doubts the per-

manency, negatives taken years ago, all fixed in broad daylight, or I can refer him to letters in the AMATEUR PHOTOGRAPHER, 1887 and 1888 editions, by Messrs. W. A. J. Croke, Jas. Wood of Liverpool, T. B. March of Chiswick, J. Wall (Editor of the "Dictionary of Photography"), or J. Werge, of Berners Street, and many others. The last named gentleman was, I think, the first to discover, at any rate to publish, the fact that there is absolutely no danger in fixing plates in actinic light, provided they are well washed (see book by Jabez Hughes, revised and edited by J. Werge, published about ten years ago); and if Mr. Davies will call upon Mr. Werge he could see an example of such a negative. I hardly think the above-named gentlemen and scores of others ought to be styled "pseudo successful workers," until someone can come forward to prove their false doctrines.

Personally, it can make no difference to me what insoluble compound is formed by exposure to actinic light, so long as I know by experience (which is better than theory at all times) that the compound does not damage my negatives. There is a theory that tea is very injurious, but I know people of eighty who have been drinking it all their lives. Of course, if a man's digestion is bad, tea will not improve it, any more than fixing in actinic light will a plate that has not been washed free of the developer.—I am, yours truly,

B. DAVIDSON.

* * * *

THE AUTOMATIC PHOTOGRAPH COMPANY.

SIR,—As editor of a professional paper, you should ascertain better the facts before allowing yourself unfavourable comments upon anyone's name and character.

From the card I send you herewith, and from my letter which appeared in some financial papers, you will see that the prospectus of the Automatic Photograph Company, Limited, was correct. I have to add that not only all the photographs signed by the London Stereoscopic Company, and exhibited actually in the Regent Street portrait windows and reception rooms, but also 90 per cent. (if not 99 per cent.) of those which fill up the show-cases and frames of the Cheapside branch were executed under my hand and direction.

I expect to see the copy of this letter in your next issue, and a full apology for your remarks.—I remain, Sir, yours truly,

May 18th, 1890.

L. NIEVSKY.

NOTE:—We gladly insert the letter, which is in itself a full explanation.
—ED: AM: PHOT:

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THE BOSTON CAMERA CLUB LANTERN SLIDES.

SIR,—At the meeting of our Council this week, I was officially requested to lay before you the interesting work of our American friends, and to say that the "White Mountains" set, which is to be exhibited before our members on 29th inst., can be forwarded to any photographic association in the United Kingdom, for exhibition, on application to me.

I have now in my possession the synopsis of four sets (a copy of the first of which I sent you), viz.:

(1) "The White Mountains of New Hampshire," prepared in 1889 by members of the Boston Camera Club, now in our possession.

(2) "Glimpses of California," prepared by members of the Pacific Coast Amateur Photographers' Association, which we expect to be consigned to us this spring.

(3) "Chicago, Historical, Picturesque, Architectural," prepared by members of the Chicago Camera Club; a duplicate set of which is being made up to be ready for us early in 1891.

(4) "In and about San Francisco," prepared by members of the California Camera Club; a duplicate set also to be ready for next season's circuit.

Mr. Wm. Garrison Reed, the Hon. Sec. of Boston Camera Club, writes me that this work has grown to such magnitude that he has resigned his office, and expects to be appointed, at their next meeting, "Manager of the Interchange of Illustrated Subjects." He also states that another year they will be able to ship quite a number of interesting subjects, if their English brethren care enough for them by responding with a little of their own work.—Yours faithfully,

G. M. TUNSTALL.

Liverpool Am: Phot: Assoc:

3, Lord Street, Liverpool,

May 17th, 1890.

Chemistry for Photographers.

By C. H. BOTHAMLEY, F.I.C., F.C.S.

(The Yorkshire College, Victoria University).

(Continued from page 331.)

THERE are as many different kinds of atoms as there are different chemical elements. All the atoms of the same element are alike, but the atoms of different elements are different. They differ in their tendency to enter into chemical combination, or, in other words, in their chemical energy; and they differ also in their relative weights. All the atoms of hydrogen have the same weight, and all the atoms of oxygen have the same weight, but the weight of the atoms of oxygen is different from that of the atoms of hydrogen. The numbers which we call the combining weights of the elements represent the relative weights of their atoms. Notice especially the expression, *relative weights*. We do not know the absolute weight of an atom of hydrogen, or an atom of oxygen, or an atom of chlorine; what we believe we do know is that the atom of oxygen is 16 times as heavy, and the atom of chlorine 35.4 times as heavy, as the atom of hydrogen. Our knowledge on this point is of the same kind as when we know that one man is twice as old as another, without knowing whether one is twenty and the other forty, one twenty-five and the other fifty, or one forty and the other eighty.

Now since the atoms are indivisible in chemical reactions, it follows that combination must take place between entire atoms, and if the atoms have definite relative weights, combination must take place in definite proportions by weight. This is what actually happens, and the first law of chemical combination is a statement of the fact.

The simplest compound of which we can conceive is one composed of only two atoms of different kinds. If however the same two elements form more than one compound, these higher compounds must be formed by the addition of a certain number of *whole atoms* of one or the other element, and therefore the proportion of either element in any of the higher compounds must be a simple multiple of its proportion in the lowest compound. The law of multiple proportion is a statement of the fact that this is always found to be the case.

Turning to the examples previously given (p. 289), we see that the combining weights of the elements referred to, *i.e.*, the relative weights of their atoms, are as follows:

Chlorine	Mercury	Tin	Phosphorus
35.4	200	118	31

We believe that the molecule of the insoluble chloride of mercury is composed of one atom of mercury and one of chlorine, the molecule of the soluble chloride is composed of one atom of mercury and two atoms of chlorine; the solid chloride of tin is composed of one atom of tin and two atoms of chlorine, the liquid chloride of one atom of tin and four atoms of chlorine; the liquid chloride of phosphorus of one atom of phosphorus and three of chlorine, the solid chloride of one atom of phosphorus and five of chlorine.

The assumption that the elements consist of inconceivably minute particles or *atoms*, which remain undivided in chemical reactions and possess definite relative weights, enables us therefore to explain the results of experiments as expressed in the laws of chemical combination. We shall see later that the theory of molecules and atoms will also explain a great many other facts which have never been explained on any other supposition.

Since we are led to the conclusion that the combining weights of the elements are the relative weights of their atoms, these numbers are very frequently called the *atomic*

weights of the elements. Although the terms *combining weights* and *atomic weights* denote exactly the same set of numbers, they are not really synonymous. So long as we call these numbers combining weights we confine ourselves strictly to the results of our experiments; if we call them atomic weights, we assume that the atomic theory is true.

Indestructibility of Matter.—The experiments which have established the laws of combination and have enabled chemists to determine the combining weights, have also led to a conclusion of the very highest importance, namely, that, no matter how energetic the chemical reaction may be or how complete the alteration in the properties of the substances concerned, the total weight of the products is always exactly equal to the total weight of the original substances. Even in cases where a substance almost entirely disappears, as in the burning of coal or of a candle, the matter composing it has not been destroyed but has simply been converted into colourless and transparent, and therefore invisible, gases. In no chemical change is there any destruction of matter which previously existed, nor is there any creation of new matter. So far as observation and experiment can teach us, the total quantity of matter in the universe remains constant; we can change its form and its properties, but we cannot alter its amount. This great law, that *the total mass of matter in the universe remains constant whatever the changes in its forms and properties*, is known as the PRINCIPLE OF THE CONSERVATION OF MATTER.

Mixtures.—Hitherto we have divided matter into elements and compounds, but we frequently meet with substances which do not strictly belong to either class; they are not elements, for they can be resolved into simpler constituents, and on the other hand they differ in several important respects from true compounds.

EXPERIMENT 27.—Grind five part of fine iron filings with three parts of flowers of sulphur until they are mixed as perfectly as possible. *Observe* that the mixture has a colour intermediate between those of its constituents. Examine it under a microscope; *observe* that the particles of iron and sulphur can be distinguished from one another. Introduce a magnet into some of the mixture; *observe* that the iron adheres to the magnet, but the sulphur does not and can readily be removed by tapping the magnet; in this way the sulphur can be separated from the iron. Throw some of the powder into water; *observe* that the iron sinks, but the greater part of the sulphur floats on the surface of the water.

EXPERIMENT 28.—Place some of the same mixture in a dry test-tube, and heat to dull redness. *Observe* that heat is developed, and the contents of the tube become red hot, thus showing that a chemical change has taken place. When the tube has cooled, powder the product, and repeat with it the experiments made with the original mixture. *Observe* that the sulphur and iron cannot be distinguished under a microscope, they cannot be separated by means of a magnet, and they do not separate when thrown into water.

Here we have a typical instance of the difference between compounds and the third class of substances or *mixtures*. In Experiment 27 the sulphur and iron are merely mixed; in Experiment 28 they combine under the influence of heat and form a true compound.

The chief points in which mixtures differ from compounds are as follows: (1) their properties are the mean of the properties of their components; (2) their composition is variable, and the proportions of their constituents usually have no definite relation to their combining weights; (3) they are not homogeneous, and the different constituents can be distinguished under a microscope; (4) their constituents can be separated by purely mechanical means, such as throwing the mixture into a liquid in which some of its constituents

will float whilst others will sink, or treating the mixture with a solvent which will dissolve some of the constituents but not others.

(To be continued.)

Photographic Printing Processes. No. XI.

BY ANDREW PRINGLE.

Gromwell House, Berkeley Heath, Kent

BROMIDE PAPER PRINTING.

(Concluded.)

IN Chapter X. I gave formulæ for what may be called standard or normal developing solutions for bromide paper; we now proceed to discuss the methods of using our solutions, and other operations connected with this process. But first a few words on exposure may be useful. In my last chapter I pointed out the effects of varying exposure, but I have not yet discussed the radiant or the manner of making the exposure. If we are to achieve even results or to acquire facility in varying our exposures to suit our purposes or to overcome defects in our negatives, the latter power being one of the strong points of this process, we must fix upon a standard of exposure—that is to say, a standard light and a standard distance from light to sensitive paper. I do not think there is any need for the use of incandescent magnesium for contact printing on bromide paper, as the paper is usually quite sensitive enough to be used with oil lamp, gas, or even candle light. My own idea, is that the less sensitive the emulsion is—within limits of convenience—the better for the results in ordinary hands. I find that most bromide papers on the market are too sensitive for the best quality and for safety. One firm has of late made its bromide paper considerably more sensitive than it used to be, and I believe that the quality of results is on the average lower than it was with the old and slower brands of paper. For enlarging purposes there is an inconvenience in the use of very slow bromide paper; for instance, twenty minutes of exposure becomes tedious when compared with eight or ten minutes, but nobody would complain bitterly of having to expose twenty seconds in place of ten. Other qualities being equal, I should always prefer a slow bromide paper to one of the rapid brands made for enlarging purposes.

A batch of candles of any ordinary make may be used for our radiant, one candle at a time, of course. "Government standard" candles answer very well. An oil lamp will also answer our purpose if we take care always to turn its flame to the same height, to certify which a mark may be made on the chimney or on any other convenient place. I use myself a "regulator" gas burner, which turns up to one height, and will not allow any greater passage of gas, no matter what may be the main pressure.

The next question is the distance from radiant to the paper. It is even more important to have a standard distance than a standard light, for a slight variation of distance makes a comparatively great variation in actual effect of light on the paper. To get at the effect of variation of distances comparatively we require to square the distances which we wish to compare. Thus an exposure of x seconds at 9 ins. is equivalent to an exposure of $4x$ at 18 ins. This leads us to another important consideration. If we are exposing to our light a large surface of paper, say 10 by 8, the margins of the paper receive appreciably less exposure than the centre if we hold the frame steady and straight centrally in front of the radiant. Even if we put ground-glass or some similar diffusing medium between light and

frame, we do not entirely overcome the inequality. We must therefore keep our frame moving in front of the light, so that each part of the surface of our paper shall get the same exposure. Even with quarter-plate prints I have found inequality of lighting to arise from neglecting to move the printing frame. We can improve matters by holding the frame further away from the light, but this in a great ratio increases the necessary exposure. Probably 12 inches may be taken as a standard distance for sizes up to half-plate, 18 ins. (requiring twice the exposure) will be better for whole-plates, and 24 (require four times the exposure for 12 ins.) will answer for 10 by 8 plates; in all cases I recommend that the frame be moved during exposure. If we can be sure of moving the frame correctly, the 12-inch distance will do quite well for the 10 by 8 plate. An exposure of 20 secs. at 12 ins. distance from my regulator gas burner might be put down as my normal exposure for the normal developers suggested in Chapter X.

After the paper is exposed, it is slid under the surface of clean water about two or three inches deep in a dish some sizes larger than the print. The paper should be turned over at least once in this water, to prevent air bells or uneven wetting. The water acts as a retarder of development, and uneven wetting will cause uneven development. When the paper is limp it is laid face upwards in a flat dish without ridges; the dish is held up for a moment to let all water run off, and the developing solution is "swished" over the surface of the paper; for a minute or so the developer should be kept moving over the paper. If the solution gets under any part of the paper it should be caused to go under it all.

We can learn much about our exposure by closely studying the first appearance of the image. The image should not come up quickly, but very gradually, but it should never stop appearing; provided that details keep on appearing they cannot come up too gradually, within limits. If the details run up in close and hurried succession it is a sign of over-exposure, and the result is this: all details are up before the shadows have had time to let the developer act sufficiently long, and so we get dirty, bad-coloured shadows in our print, and this is precisely the commonest fault in bromide prints. On the other hand, if the high-lights are reluctant to appear, the shadows go on developing till they are clogged and lose all transparency, and this is the second commonest fault we see in this style of printing. The details, as I said before, must follow each other steadily, and by the time that the shadows have got a good colour the details in high-lights should be all out, and the developer is at once to be washed off with acidulated water. I always use acidulated water at this stage of bromide printing, for with ferrous oxalate it facilitates the washing-out of the iron, and with quinol it stops development, which with tap water is very apt to continue unless the water be acid. I simply make my first washing-waters, two or three, smell of acetic acid; then I thoroughly wash out the acid and fix in a hypo bath, 1 hypo to 5 water, made slightly alkaline.

Bromide paper, like other paper, should be allowed plenty of time in the fixing-bath—fifteen or twenty minutes. I saw a statement not long ago in these columns by a good worker, that an immersion of this duration in the hypo bath would reduce the density of the print. I never have known such a thing to happen, and my prints are sometimes an hour and sometimes even longer in hypo. I cannot say what an acid fixing solution might do, for during many years I have not indulged in an acid fixing bath, nor do I ever purpose to do so.

Washing paper prints, is, as already stated in previous chapters, easy or difficult according to the method pursued. It is easily done by a squeegee applied to the back, while a rose-tap plays on the print. My own practice is to squeegee

in that way each print for about four minutes, then to trust to a machine to finish the job in about four hours. Sometimes if a print is put under the tap directly from the hypo, blisters or even "blebs" will appear. If they are put first into water containing a dose of common salt, the blisters will probably not appear. As there is a great deal of fear, or at least doubt, as to the effect of a trace of hypo left in a bromide print, I may say that I have for months kept bromide prints merely rinsed from hypo, without a sign of fading or yellowing. But I do not wish to encourage perfunctory washing—I only wish to allay unnecessary fears.

If it is desired to glaze bromide prints, as for scientific demonstration, the smooth-surfaced paper may be sequestered to tinned ferrotype plates, or to tinned glass plates, or even for very high glaze to tinned and collodionised glass plates, as directed by me in previous chapters on other processes.

Some makes of bromide paper have "soapy"-looking surfaces when the prints are dried *au naturel*; to my mind this soapy appearance is fatal. I would never use such a paper. It may be that my treatment has always been faulty, but with certain brands of bromide paper I have always got that appearance.

Besides the two faults mentioned in this paper—mealy, poor shadows, and opaque shadows with chalky lights—there is another fault often seen, sometimes solitary, sometimes accompanying the mealy shadows. I refer to a bottle-green or dirty brown tone all over the image. This is, I believe, invariably either the result of over-exposure and rapid development, or else, in a few cases, due to an overdose of bromide in the ferrous-oxalate developer. I do not know why bromide should cause this disagreeable colour; by slowing development it might be expected to do the very opposite; but the fact remains and has been noticed by others as well as by myself. Quinol sometimes gives a bad colour on over-exposed prints; I have observed that very frequently.

I am well assured that if bromide printing were more studied than it is, many amateurs would take to it very kindly, and would find what an immense boon it is for printing negatives not perfectly suited to Platinotype Printing.

Photographic References.

BY MAJOR J. FORTUNÉ NOTT.

(Continued from page 332.)

HAND-CAMERAS.

Hand-Camera.—This term is now applied to a small form of portable camera, so constructed that it can be held in the hand during exposure, an advantage that not only enables the photographer to dispense with the clumsy and cumbersome tripod, whose employment the other makes of camera necessitate, but by being quickly prepared for use it places at his disposal the means of photographing views or effects of fleeting duration which would be impossible to procure with the ordinary photographic apparatus. This form of camera was originally called a "detective," but this title is gradually falling into disuse, for the ideas suggested by that distinctive appellation were not of that character which recommended the name to the gentlemanly instincts of the better class of amateur photographers.

Since the manufacturers of photographic apparatus have become imbued with the idea that there is an unlimited demand for a perfect form of hand-camera, so much attention has been given to the improvement of this instrument that it is gradually approaching the acme of perfection, which, under existing circumstances, it can possibly attain.

One by one the defects apparent in the earlier patterns are being overcome, and it is evident that in a short time photographers will be able to procure a form of hand-camera by which as good negatives can be produced as hitherto can only be done by the employment of a much more complicated apparatus. When it has attained this position it will no longer be regarded as a toy, upon which it is unsafe to place reliance if serious or artistic work is contemplated, though, of course, there are, and probably always will be, certain limitations in its use, for they are partly due to certain optical difficulties, which will, without doubt, always remain insurmountable.

Under the stimulating influence of popular demand the inventive faculties of photographers have been quickened, so that the number and variety of hand-cameras now advertised by the dealers in such articles is almost greater than the number of patent shutters, to which we have previously referred. A would-be purchaser should therefore before making a selection have some distinct idea respecting his requirements, and not only be able to recognise those features which should be considered indispensable, but to detect the difference between others which confer distinct practical advantages, and those which can only correctly be described as "fads" or unnecessary complications.

The perfect hand-camera should embrace the following features:—It ought to be light and compact, and capable of being quickly adjusted when required for use. It should possess the means whereby it can be focussed in such a manner that lenses of different focal lengths, as circumstances necessitate, can be used. If glass plates or cut films are preferred by the operator to the employment of a roll-holder, then it should have some simple automatic changing device which will allow the operator to make the necessary change after an exposure quickly and in an unobtrusive manner. The shutter should be capable of regulation from a prolonged or time exposure to one of the most rapid character, and its liberation should be made at a point the finger can easily reach while the camera is being held in a convenient position. A very slight pressure on the spring should be all that is necessary, for if more than this is required the camera is very liable to receive a jar at the very time all movement should be avoided. The construction of the shutter should be of that character that will allow the maximum degree of illumination consistent with the utmost simplicity of construction.

By the narration of the features that should distinguish a hand-camera designed for practical utility it will be seen that considerable ingenuity has to be expended upon it. With the class of hand-cameras which can only be correctly described as toys we have no concern. Judging from the productions resulting from their use, their main aim appears to be the enrichment of their manufacturers by the degradation of photography to a mere shadow producing sport within the limited capacity of feeble-minded men and women who are content to waste plates *pour passer le temps*. And as the people who engage in this pastime are no more qualified to be called photographers than the bumpkin can be so described who while standing grinning into vacancy "drops a penny in the slot" and produces something which he is satisfied to call a photograph, we shall not consider it incumbent upon us to refer to any other forms of hand-camera but those designed for the use of experienced photographers.

A serious fault with many otherwise fairly good forms of hand-camera is that they are not quite light-tight, or, rather, we should say that their construction precludes the possibility of their remaining so for any length of time, due greatly to the fact that there are so many apertures through which light can creep if the door or lids undergo any variation in size, which can hardly be avoided

if the wood or metal is subjected to any climatic changes. A most thorough examination for defects of this character should on no account be omitted, especially if the camera is being procured as an accompaniment of any prolonged travelling, for all the other advantages it may possess will not compensate for the annoyance liable to result from the weak spots of this nature in its construction. It is not enough to be merely satisfied that at the time of purchase it is light-tight; the point should be ascertained that it is so constructed that it will always remain so, unless, of course, it meets with an accidental injury for which no safeguards can be provided. We strongly emphasise the advice to give most careful scrutiny for defective points of this character, and to refuse to purchase an instrument in which they are apparent, for after some considerable experience we have found that they are the source of a large proportion of that trouble which amateurs experience in producing clear, sparkling negatives with the aid of their hand-cameras.

We consider a roll-holder almost a necessity with a hand-camera. Not only is the weight reduced by its employment, but the convenience resulting from having forty or fifty exposures ready by the mere winding of a key supplies this form of camera with one of its principal charms. However, as these views are not shared by everyone, for many photographers prefer to always employ glass plates, and under any circumstance the power of using them should be supplied with all cameras, therefore an automatic or some similar changing device should exist, which should be most carefully tested to find out that it can be worked easily and possesses no complications that may cause a sticking of the plates or the throwing of them out of register. In some methods of accomplishing this requisite changing a liability to the creation of dust exists, and under certain conditions this defect may become excessive; but by having the interior of that portion of the camera wherein the changing takes place occasionally rubbed over with glycerine, it can be considerably reduced. Another annoyance which exists in some of the methods adopted to effect the desired changing results from the plates getting scratched during the operation. The placing of small discs of gummed paper at the corners of the sensitive side of the glass may to some extent mitigate this evil; but it is, of course, better where any choice exists to select a form of mechanism in which no liability to this species of damage can arise.

(To be continued.)

THINGS ONE WOULD RATHER HAVE EXPRESSED DIFFERENTLY.—Photographer: "Please look a little pleasant, miss. I know it's hard, but it's only for a moment."—*Punch*.

MR. HICKS, of Hatton Garden, has sent us an 8oz. opaque measure, which is calculated to meet a want long felt in the dark-room. The measure is made of opal glass with a clear strip about half an inch wide, ground down each side, on one of which are drawn the marks for ounces and half ounces. The effect of this is that on looking at the light through the clear strips, absolute accuracy can be obtained in measuring quantities in the dark-room.

"QUAINT LONDON."—We have received from the publishers, Messrs. Truslove and Sairley, 7, St. Paul's Churchyard, London, E.C., a copy of "Quaint London," by "Old Mortality." The book contains several very excellent illustrations, reproductions of photographs of interesting relics of Old London, with descriptive letterpress. Most of the illustrations are taken from the photographs of the Society for Photographing Relics of Old London, by permission of Mr. Alfred Marks. The reproductions are produced from photo blocks in two printings, and an effect of light and shade is thus secured which is often absent in prints from the ordinary photo blocks. All those interested in old land-marks should procure a copy of "Quaint London," which is published at 1s. 6d. The book has been produced by Messrs. Hazell, Watson, and Viney, Ltd., of London and Aylesbury.

Science Notes.

In a lecture on "Colour Vision and Colour Blindness," delivered before the Royal Institution on May 9th, Mr. Brudenell Carter finely describes the structure of the "seeing eye." "In the human eye there is a small central region in which the perceptive layer consists of cones only, a region which the fibres avoid by curving round it, and in which the other layers of the retina are much thinner than elsewhere, so as to leave a depression, and are stained of a lemon-yellow colour. In a zone immediately around this yellow spot, each cone is surrounded by a single circle of rods; and, as we proceed outwards towards the periphery of the retina, the circle of rods around each cone becomes successively double, triple, quadruple, or even more numerous. The yellow spot receives the image of the object to which the eye is actually directed, while the images of surrounding objects fall upon zones which surround the yellow spot; and the result of this arrangement is that, generally speaking, the distinctness of vision diminishes in proportion to the distance of the image of the object from the retinal centre. The consequent effect has been well described by saying that what we see resembles a picture, the central part of which is exquisitely finished, while the parts around the centre are only roughly sketched in. We are conscious that these other parts are there; but if we desire to see them accurately, they must be made the objects of direct vision in their turn."

Both naturalists and anti-naturalists will, we are sure, derive comfort from this able summing-up of "the case for the eye." Both will doubtless claim it as a distinct pronouncement in their favour.

There is to be an "International Medico-Scientific Exhibition" in connection with the Medical Congress which is to be held at Berlin from August 4th to 9th. Among the objects specially desired are "apparatus for photography and spectrum analysis so far as they are of service to medicine." Exhibitors should apply to Dr. Lassar, Berlin, N.W., Karlstrasse 19.

Mr. Isaac Roberts recently presented to the Royal Astronomical Society a photograph, taken by himself on January 12th, of stars in the region of Tycho Brahe's Nova, with an exposure of 2 hours 55 minutes. Comparison with a map of the same region made by the astronomer D'Arrest in 1864 shows that six stars mapped in this region by the latter are now missing.

At the last meeting of the Royal Astronomical Society, Mr. Knobel said that he had recently visited Dr. Vogel's observatory at Potsdam, where he had the pleasure of inspecting the first photographic telescope, made according to the recommendations of the French Congress for the photographic survey of the heavens. The photographs taken with it (including one of the Orion Nebula, and one of the star-cluster 67 M. in Cancer) give beautiful images up to 1 deg. 16 minutes from the centre of the field. It was found that white stars only required one-tenth of the exposure of the red stars to give the same image on the dry-plates employed.

The largest lens-disc ever cast has just been forwarded by the makers (Messrs. Mantois, of Paris) to Alvan Clark Brothers, in the United States. It is a disc of crown glass which the Clarks will form into a lens forty inches in diameter. When its companion lens of flint glass is completed, the two will form the objective of a magnificent refracting telescope (the largest in the world), which will require a tube sixty feet in length, and which will be the property of the University of Southern California.

Mr. Stanley writes to repudiate the statement that he has accepted £1,000 for the permission to take his photograph. But why should the great explorer not have accepted the offer and devoted the money, if it pleased him, to some good object? It is well known that many public personages see nothing wrong in receiving an honorarium from the photographer who immortalises them. Madame Patti's fee is, we believe, £200.

By the death of Colonel Stuart-Wortley, at the age of fifty-eight, photography has lost an influential and ardent devotee. Twenty years ago he stood in the very forefront of our workers, and though illness had of late years interfered with the active prosecution of the "light-science," his interest in it was as keen as ever.

The Natural History Society, at Rugby School, has formed a section for photography, and they intend to work for the Warwickshire survey. No wonder that photography flourishes at Rugby when the science master is Mr. A. F. Donkin, brother of the late

Secretary to the photographic Society of Great Britain (Mr. W. F. Donkin, whose lamented death in the Caucasus will be fresh in the memory of our readers).

At a recent meeting of the Washington Chemical Society, Dr. Thomas Taylor, of the United States Department of Agriculture, exhibited a new flash-light intended to take the place of several kinds which have proved highly dangerous. The composition, as described by *Science*, consists largely of charcoal made from the silky down of the milk-weed—a form of carbon which Dr. Taylor prefers to all others, because of its freedom from ash. A few grains of this composition placed on tissue paper and lighted by a "punk-match," produced a prompt and blinding flash. The paper on which the powder rested was not even scorched. The flash being instantaneous, the heat is not sufficient to ignite the most inflammable material on which the powder may rest. An inferior flash-light being used with the same paper for a base, the paper at once caught fire. This was owing to the comparatively slow combustion of the chemicals used in the inferior grade. Dr. Taylor said the powder of his new flash-light would not explode either by concussion or by friction.

F. G. S.

Stereoscopic Slide Competition in Paris.

We have been favoured with the annexed translation of circulars emanating from the Paris Photo Club, and which have been addressed to the Secretaries of various photographic societies in the United Kingdom. A courteous letter from the Secretary of the Paris Society asking for support in the undertaking accompanies the circular. We wish the promoters of the competition all success, and hope that our "Britisher" knights of the camera will take part—and honours—therein.

PARIS PHOTO CLUB.

(Society of Amateur Photographers for the Study of Photography and its application to Arts, Science, and Industry.)

FOUNDED IN 1888.

Rooms of the Society in Paris: 40, Rue des Mathurins.

Paris, April 20th, 1890.

SIR,—We have the honour of informing you that on the personal initiative of M. Maurice Bucquet, President of the Photographic Society of Versailles, Secretary General of the Paris Photo Club, member of the Amateur Photographer Society of Excursions, a competition of stereoscopic slides is now open at the Paris Photo Club, 40, Rue des Mathurins.

This kind of photography, after having enjoyed an unexpected popularity, is unfortunately rather neglected at the present day. Our colleague wishes to assist in reviving in amateurs the predilection for the stereoscope, the artistic side of which they cannot fail to perceive.

We hope that you will kindly take part in the Competition, and in that way contribute to its success. The rules will be forwarded with this.

Accept, dear sir, our kindest regards,

THE COMMITTEE OF ADMINISTRATION.

The Paris Photo Club places its laboratories at the disposition of the photo societies of the provinces and of foreign countries on the presentation of their cards of membership.

All information to be had from the office of the General Secretary, 40, Rue des Mathurins, Paris.

RULES OF THE COMPETITION OF STEREOSCOPIC SLIDES.

1. A Stereoscopic Slides Competition is now open at the Paris Photographic Club, and will be closed on June 15th, 1890. A public exhibition of the works sent in will take place at the Society's rooms, 40, Rue des Mathurins, from the 15th of June to the 1st of July, and will be open every day from 9 a.m. to 6 p.m.

2. Every amateur, French or foreign, can take part in the competition by conforming to these regulations.

3. The costs of transport (sending and returning) of the works sent in, will be at the expense of the competitor.

4. The number of slides sent in by each competitor must not be less than twelve or exceed twenty-four. These slides must not have been exhibited at any other Exhibition. They can be either on paper or on glass. The competitors who desire to send slides of unusual dimensions, that is to say, other than $6\frac{1}{2}$ by $3\frac{1}{4}$, must furnish the special apparatus for examining their work.

5. The slides must be numbered and accompanied by a note, signed by the competitor, explaining the kind of apparatus, lens, stops, plates, development, kind of paper, toning, etc.

6. The applications must be addressed to the office of the general Secretary of the Paris Photographic Club, 40, Rue des Mathurins, before the 10th of June. The exhibits will be received there up to noon June 14th; later than this exhibits will be rigorously refused.

7. A list of the members composing the jury will be submitted to the competitors in due time.

8. The decisions of the jury are final.

9. Silver gilt-medals, silver and bronze, will be awarded to the successful candidates; the number will be proportionate to the number of competitors.

10. The prize-slides will remain the property of the Photo Club, and will be placed amongst its permanent collection.

(Signed) THE COMMITTEE OF ADMINISTRATION.

The negatives and positives must be the competitor's *own work*.

A Record in Development.

MANY amateurs are so fidgety about their dark-room and its appendages, that we describe, both for the benefit of the finic and also for "those who go down to the sea"—in trains, how an extemporised travelling dark-room was successfully used by a member of the newly-founded Croydon Camera Club.

In case the railway Superintendent should reprimand the guard who connived at the measures adopted, we must perforce suppress the gentleman's name, the date, and the station where the train was joined.

About a fortnight ago Mr. X. ran down for the day to visit his friend Y., who dwells somewhere on the south coast, within about one and a half hour's journey from Croydon. Mr. X. having exposed sixteen quarter-plates, Y. enquired of him when they would be developed. "To-night," answered X., and added, "Perhaps before I get to Croydon." Y. expressed incredulity, on which X. guaranteed that he would have all the plates developed before reaching his destination.

No previous preparation had been made, and the train started in forty minutes from the time of above conversation. A sheet of ruby paper, some drawing pins, some oiled paper, and a piece of Willesden waterproof paper, together with Beach's developer, in two solutions, were procured. The guard was duly "tipped," and a pail of water obtained from the engine-driver. Mr. X. being safely locked in a third-class compartment, the Willesden paper was made into a tray, with sides three inches deep, on account of the swaying of the train. The ruby paper was pinned over the carriage lamp, and the blinds carefully drawn. The night was, fortunately, a dark one. Most of the plates were shutter views; these were first developed, the developer being used for about three plates and then thrown away. The time views were subsequently developed, with a suitable modification in the proportions of developer. The plates were well rinsed in the pail of water, and while wet wrapped in oiled paper, and thus packed in the ordinary boxes in which they are sold; the object of using oiled paper being that it does not stick to the film when the latter is either dry or wet. The plates were all developed before Red Hill was reached; the fixing being deferred until arriving home.

The resulting negatives were not noticeably inferior to those which the same worker generally produces in his dark-room. We have before us a print of a wreck with fisher-boats "salvaging," which is distinctly above the average skilled amateur work.

If so good a result is attained by adapting a railway carriage on the spur of the moment, even better could be done by pre-arranging to make use of the dreary time spent in travelling by night. The above *tour de force* is a strong argument in favour of those railway companies who run journeys of from five hours upwards, such as the Scotch express, providing a well-fitted but inexpensive dark-room. A luggage van might be converted, with an open compartment for workers to sit in when their "dark deeds" are done.

A pleasant vision is opened up of snap-shot views, taken from a railway carriage, and developed during the journey. Of course, plates need not be exposed while the train is "hurtling" along at seventy miles an hour; but in a, say, ten hours' journey there are many stoppages and slackenings of speed which a member of the "wideawakes" could profitably utilise.

Notes from the Liverpool Centre.

(By our District Editor.)

INTEREST in the Photographic Convention of the United Kingdom to be held at Chester continues to increase. The representatives of the Liverpool Association at the Convention will be Messrs. Paul Lange, President; E. M. Tunstall, Hon. Sec.; B. J. Sayce, T. S. Mayne, and W. P. Christian. All the Liverpool representatives are members of the Council of the Society.

At the Liverpool rooms last Wednesday Mr. H. H. Williams was the demonstrator; subject, "Silver Printing and Toning." There was a very full attendance, the President in the chair. Mr. Williams showed some old plate prints, and then dealt masterfully with his subject. Photographers could print how they liked, but if they had not a good negative to begin with they could never get a good result. To fume with ammonia was useful but not altogether necessary. If the bath was the slightest degree acid the better. The following was a good bath:

Phosphate of soda	30 grs.
Water (lukewarm)	8 ozs.
Gold, 15 drn. solution. Bi-carbonate of soda.	

Afterwards the subject should be washed, to get most of the "milkiness" out. Matt-surface paper picks up the gold very quickly. The toning should be continued until just a trace of red remains. To remove the red, rub over with powdered bi-carbonate of soda. Fix the prints for twenty minutes in strong, freshly made hypo. Mr. Williams also explained his fuming box, which is a square American biscuit tin with false wooden bottom to prevent paper touching the ammonia, saucer to hold the liquid ammonia, holes bored in false bottom to allow the fumes to reach the paper. A tightly fitting lid with space to put the paper in completes the ingenious contrivance. An interesting discussion followed, and then a hearty vote of thanks proposed by the President. Mr. Williams is going abroad almost immediately, otherwise he would have given a further demonstration. At the next demonstration, on 28th inst., Mr. Lange will take as his subject "Platinum Printing and Toning." For Saturday an excursion has been arranged to Rossett and Gresford, North Wales. A through fast train will convey the party about noon, special arrangements having been made with the railway company.

The Boston Camera Club slides of "The White Mountains," New Hampshire, have just come to hand, and will be exhibited before the Liverpool Society and friends at the ordinary meeting on the 29th inst. The slides are accompanied by seventy half-plate and full-plate duplicates beautifully mounted on cards, attached to each of which is a letterpress description, in detail, of the picture. The lecturer has, therefore, all "plain sailing." The work, so far as can be now judged, is high class, though not so good as some of our best home work. We have as charming scenery, too, here at home as the Bostonians have sent in their set of plates. The series was prepared in 1889 by members of the Boston Camera Club.

Mr. E. Roberts is exhibiting three lantern-slides, one by the pyro and ammonia process, one by the soda process, and the third by the ferrous-oxalate process. The trio show the characteristics of each remarkably well, and are especially interesting to the inexperienced. Mr. Roberts is a photographer of upwards of thirty years' standing.

The Liverpool exhibits from the Crystal Palace and Newcastle are now hung in the Liverpool Society's rooms, Lord Street. The members regret that they have not the successful Birmingham set to accompany their own. The last-named, however, when applied for, had been distributed.

Mr. Paul Lange's Crystal Palace (Silver) Medal and the AMATEUR PHOTOGRAPHER (Gold) Medal are much admired.

Wallasey Photographic Association.—At the monthly meeting of this association, Mr. E. Kite, Vice-President, in the chair, Mr. Jas. Gill gave a paper and practical demonstration on "Bromide Printing." He prefaced his remarks by saying that although this style of printing was now rather obsolete it came in useful for those who were engaged all day in business. He advocated bromide printing for poor or thin negatives, also the use of hydroquinone as the developer, in preference to the red ferrous-oxalate. He then exposed and developed a print, with gratifying success. A discussion, and thanks to Mr. Gill followed. Mr. Wilkinson exhibited some very successful negatives of the Liverpool May Day processions, developed by Eikonogen, finished with hydroquinone. The outdoor meeting of the society was

held on the 10th inst., at Eastham. At the next meeting Mr. Gregg will give a paper on "Home-made Sensitised Paper."

The conditions, schedules, etc., of the Liverpool (1891) Exhibition, specially printed in French and German for Continental competitors, are now in the hands of the printer, and in a day or two can be had on application to Mr. T. S. Mayne, Photographic Association, 3, Lord Street, Liverpool.

The details of the Birkenhead Society's Annual Prize Competition appear to have given general satisfaction.

Our Contemporaries at Home and Abroad.

THE *Beacon* (Chicago) gives the following:—At a recent meeting of the French Photographic Society M. E. Vallot showed a successful *Contretype* in china ink, produced as follows: A glass plate had been coated with bi-chromated gelatine and exposed under the negative to be reproduced. It was then developed in water, holding in suspension a sufficient quantity of china ink, when the parts not acted on by light softened and absorbed the coloured liquid, while the parts hardened and rendered insoluble remain clear. Other insoluble colouring matter may be used as well as china ink, so long as it is stable under the action of light. Articles: "The Angle of View," "Daguerre Memorial," "The Optical Lantern," "The Light of Other Days," etc.

The *St. Louis and Canadian Photographer* (St. Louis) gives the following remedy for blisters:—"Remove the prints from the toning bath to a strong salt bath containing one ounce of stronger ammonia to each gallon of salt solution. Add ammonia to the fixing bath in the same proportion, and finally, remove prints from fixing bath to a salt and ammonia bath, as above. The prints should remain in the salt-ammonia baths at least twenty minutes each. The ammonia seems to soften the sizing in the paper so that the gas, spoken of by Mr. Sherman, escapes without separating the albumen from the paper. This is not an infallible 'cure,' but has proved most satisfactory." Articles: "Toning and Fixing Albumen Prints in One Operation," "The Art of Retouching," "Tabulated List of Explosive Substances," "Photographic Reminiscences," "The Next Convention," etc.

The *Photographic Globe* (New York) gives the following: "Frequently in developing, a plate will come up very hard, and a remedy is often asked. Too much pyro is often the cause, and if it be impossible to change the developer, a few drops of hyposulphite of soda taken from the fixing bath will soften its appearance. There is less danger in using a few drops of hypo with Eikonogen than with any other developer; in fact, the addition of hypo to Eikonogen developer, in the proportion of 1 to 1,000, shortens the time of development considerably." Articles: "The Daguerre Memorial," "Sketch of the Life of Daguerre," "A Tropical Tramp of the Tripod," etc.

"FALLOWFIELD'S PHOTOGRAPHIC ANNUAL, 1890."—One of the most useful publications published each year is "Fallowfield's Annual." If every worker in photography possessed a copy, editors of photographic journals would occasionally be able to take a holiday, or join in the pleasures and revels of a photographic "outing." Mr. Fallowfield has given the world, in his "Annual," information regarding every possible form of apparatus. He fortunately does not pretend to give instructions as to which lens or which camera to purchase, but he does give prices, sizes, etc., and descriptive letterpress of every article required by a photographer, whether an amateur or professional, and also most complete working formulæ for nearly all the developing and printing processes. This year he has added an appendix in the form of "Photographic Hints," many of which it would be well to commit to memory. We so often have the privilege of examining apparatus made and sold by Mr. Fallowfield, and our opinion of his goods is so well known, that we do not consider it necessary to select any of the hundreds of articles described for special comment in this column; we can only express the hope that our readers will early possess themselves of a copy of the "Annual," and derive the same instruction from the perusal of its pages as we have done.

Societies' Meetings.

BELFAST CAMERA CLUB.—On Saturday, the 17th inst., a visit was paid to Bryansford, co. Down, the beautiful seat of Lord Roden. The rain which fell on Friday had given a freshness to the trees, and the river had a full head of water, which added greatly to the beauty of the cascades which abound on its course. The old moss-grown bridges, the pretty reach of river scenery, and the old saw-mill claimed many plates, while good views were obtained of woodmen at work, felling and trimming trees. The cattle and sheep in the pastures were also attended to. On reaching Newcastle a substantial tea was provided, and whilst partaking, the work of the day discussed.

BRIXTON AND CLAPHAM.—A special meeting was held on Friday, May 16th, when Mr. J. Gale read a highly interesting paper on "Photography as a Pastime." Mr. Gale's remarks were listened to with marked attention, and frequent applause testified to the appreciation which a fine selection of his beautiful lantern-slides met.

DARLINGTON PHOT. SOC.—The ordinary monthly meeting of this Society was held in the Trevelyan Hotel, on Monday, the 12th inst. Mr. Ensor (the President) read a most interesting paper on "Platinum Toning," and handed round prints illustrating the various methods. Specimens of aristotype and platinotype, shown by Messrs. Cooper and Howlett, were much admired. It was decided to have an excursion to Hexham and district on June 14th.

EAST DULWICH AND PECKHAM PHOT. SOC.—At the meeting on the 16th inst., the President in the chair, seven members were added to the roll, bringing the total up to eighty-three. It was resolved that the society purchase a 12 by 10 camera and lens, etc., to be loaned out to the members under such conditions as the Committee may determine, and that the same be purchased immediately, so that it may be used on the excursion to Pangbourne on Whit Monday. The remainder of the evening was devoted to an informal discussion on apparatus. Mr. Rice showed a capital 5 by 4 camera he was in the habit of using on his cycling excursions, with one of Watson's four-fold cycling stands and half a dozen double backs, which was easily carried on the machine, or, when walking, without fatigue. There was also shown a Victoria camera, made by Mr. H. Park, of Acton Street, London. This camera is very light and portable, but when set up is extremely rigid. It is an excellently made instrument, fitted with a simple arrangement for bringing the back close up to the front for use with short-focus lenses, while the full extension admits the use of long-focus lenses. The side swing to the back is got in a very ingenious though simple manner. The opinion of the members was that it is an exceedingly compact instrument, being soundly and well made, and moderate in price.

HOLBORN CAMERA CLUB.—On Friday the 16th inst. Mr. Cobb gave a demonstration on "Toning Silver Prints," using the phosphate and acetate of soda baths, with both of which he obtained good tones. Owing to shortness of time, he was unable to go into the matter of mounting prints, which was also on the programme. This evening, the 23rd inst., is a lantern night.

IPSWICH PHOT. SOC.—The first excursion of the season took place on the 17th inst., when several members, including their veteran President, went by train to Claydon. Here the party was met and welcomed by the Rev. E. Ledger, M.A., and who kindly invited them to tea at his Rectory at Barham. At Claydon Bridge a division of forces was made, some members following the River Gipping to Blakenham (shutter men "stalking" swans and sheep by the way), where interesting subjects were found in the mill, the church, and the "Chequers" Inn, the latter claiming to be one of the oldest licensed houses in Suffolk, while other members crossed the fields to Barham, finding pictures in the Old Manor House, the church, and the picturesque "slade." Then followed tea, provided by the Rector and Mrs. Ledger, which brought the afternoon to a satisfactory termination.

JEFSEY AM. PHOT. SOC.—A special meeting was held on the 30th ult., for the purpose of examining and voting for the prize picture taken at the excursion of the 10th. Seven pictures were exhibited, and, under the circumstances of bad weather and bad light, they far surpassed expectations. The prize picture obtained five votes, and was done by Miss M. Le Cornu. It

represented the water-mill at Grève-de-Lecq with the miller carrying an empty sack in his hand and entering the doorway of the mill. The second picture, by Mrs. Smith, was declared as having been "retouched," and was excellent. It represented the mill without any figures, and gained four votes. Miss M. Le Cornu also obtained two votes for an instantaneous picture of a wave. Mr. Rogers obtained one vote for a bromide print of the lodge at the entrance to Saint Owen's Manor. On the 3rd inst. nine members left for Gouray at one p.m., under the leadership of the Secretary, Dr. H. C. Taylor. The sun was obscured, but the light good, and improved greatly towards four p.m. Views were taken in the old château, and, on the pier, of the castle itself (Mont Orgueil), fishing vessels, etc. Some children round an old boat were also secured.

KENDAL LITERARY AND SCIENTIFIC INSTITUTION (PHOT. SECTION).—The May meeting was held on Wednesday, the 14th inst., Mr. Gilbert Gilkes, C.E., in the chair. The summer field meetings were discussed and several arranged for. One new member, a lady, was elected. Mr. Dodgson (Art Master, Kendal School of Art) read a paper on "Pictorial Composition." This was copiously illustrated with diagrams and blackboard sketches. The main points referred to were, choice and selection of subject, balance, relative proportion of earth and sky, clouds, lighting of picture, variety of shape of picture, harmonious balance of lines, placing of figures in groups, proper subordination of parts or accessories, choice of figures in landscape, etc. A very interesting discussion on the relative value of the photographic and painter's work, etc., ensued. Mr. S. Rhodes proposed and Mr. Theo. Wilson seconded a vote of thanks to Mr. Dodgson for his kindness and trouble.

LEICESTER AND LEICESTERSHIRE PHOT. SOC.—A regular meeting of the society was held on the 14th inst., Mr. Geo. Bankart in the chair, in the absence of the President, Mr. S. S. Partridge. Two members were ballotted for and unanimously elected. The report of the Excursions Committee was brought up, and the following recommendations were accepted: June 19th, excursion to Stratford-on-Avon; July 17th, Forest District; August 14th, Miller's Dale (half-day); September 11th, Maxstoke Priory. The medals were then presented to the successful competitors in the print competition, held April 15th, as follows:—Society's medals, for prints over whole-plate: silver medal, Mr. Geo. Bankart; bronze medal, Mr. F. Pierpoint. Past-President's medals, presented by Mr. Geo. Bankart, for prints under whole-plate: silver medal, Mr. A. W. Wilson; bronze medal, Mr. W. Jolliffe. Mr. Sculthorp having resigned his position as Treasurer to the society, Mr. A. W. Wilson was unanimously elected to the post.

LEWISHAM HIGH ROAD CAMERA CLUB.—The social meeting of this club was held on the 16th inst. The exhibition of slides (the work of members) was proceeded with. Mr. R. W. James presided at the lantern, a very ingeniously-constructed piece of apparatus of his own invention, which might almost have been styled a "pocket lantern." The slides shown were numerous. Warm tones were certainly remarkable by their almost entire absence, but in their place some very fine specimens of pure black were shown, and those ranging between the two were very good indeed. A number of the slides shown were taken with Rouch's detective and a Key camera. Miss Wesson, R.A.M., and Mr. E. P. Miles entertained the audience with several pianoforte solos. The President, the Rev. J. Morley Wright, made a short speech, and two honorary members, Lord Lewisham, M.P., and A. H. Tarleton, Esq., and five members were duly elected. The next meeting is fixed for Friday, June 6th, at 8 p.m.

WEST LONDON PHOT. SOC.—On the 3rd inst. about thirty members of the Society met at "Jack Straw's Castle," Hampstead, and spent a very pleasant afternoon. On the 9th inst. the annual smoking concert took place at the Richmond Hotel, Shepherd's Bush Road, and proved a great success. The programme was in itself a work of art, having been photo-etched by Mr. Walter L. Colls from a design by Mr. J. Martin Dickens. Under the able chairmanship of Dr. Low a most enjoyable evening was spent. On the 17th twenty-eight members visited Weybridge.

WOOLWICH AND DISTRICT PHOT. SOC.—A meeting was held in St. Saviour's Schools, Cannon Row, on Wednesday, May 14th. The Rev. J. W. Horsley (the President) gave a short account of the uses photography could be put to, and expressed a belief that he should live to see photography in natural colours in everyday practice. On Saturday afternoon, the 17th inst., the members had their first out-door meeting at Bostal Wood. This Society now has twenty-four members.

To Correspondents.

THE insertion of **QUERIES** and **ANSWERS** is attended with much labour, and it is requested that the questions asked and the answers given shall be short and to the point. No charge is made.

All communications for these columns are to be addressed to **The Editor, "Amateur Photographer," 1, Creed Lane, Ludgate Hill, London, E.C.**

RULES.

1. Write clearly and distinctly on one side of the paper only.
2. Write each Query or Answer on a separate sheet of paper.
3. Write the name and address legibly on the back of each communication, and sign all Queries and Answers with name or *nom de plume*.
4. All matters for these columns **MUST** be received by **TUESDAY MORNING'S POST**.
5. The Editor does not undertake to answer questions by post.
6. In answering Queries, correspondents are requested to mention, in every instance, the **number and full title of the query** referred to.

QUERIES.

3827. Dark-Room.—Can anyone kindly give directions for putting up and fitting a dark-room, about 10 ft. by 5 ft.; materials to be Willesden paper or wood framework? It can be built in a corner made by two brick walls, out of doors. How should flooring be done? Or can anyone give exact reference to any magazine where such a dark-room is described?—**ST. BERNARD.**

3828. Penarth, South Wales.—Can anyone give me any particulars as to the above town or district, views, etc., worth taking, and oblige?—**WELSHMAN.**

3829. Boxhill.—Can any reader tell me the most important places to photograph there?—**BOY AMATEUR.**

3830. Swansea.—Will any reader tell me the best places to photograph in and about neighbourhood, as I am going to stop there about July-August for a month; also a place for obtaining plates, Ilford?—**BOY AMATEUR.**

3831. Vignette.—Will any reader inform me of the best way to make same?—**BOY AMATEUR.**

3832. Purple Tones.—Will any amateur photographer kindly tell me how to get good purple tones to my prints? I use the following developer:—

I.		
Pyro	...	50 grs.
Sodium sulphite	...	150 "
Citric acid	...	10 "
Water, distilled	...	1 oz.

II.		
Bromide potassium	...	50 grs.
Water, distilled	...	1 oz.

III.		
Ammonia, '880	...	2 drms.
Water, distilled	...	2½ ozs.

For Half-Plate.		
Water	...	1 oz.
No. 1	...	20 minims.
No. 2	...	30 "
No. 3	...	60 "

Fixing.		
Alum	...	2 ozs.
Water	...	1 pint.
Hypo	...	2 ozs.
Water	...	10 "

Gold Solution (Stock).		
Gold	...	15 grs.
Water	...	7½ ozs.

Toning Bath.		
Acetate of soda	...	30 grs.
Water	...	10 ozs.
Gold (solution, stock)	...	½ oz.

Hypo Bath.		
Hypo	...	2 ozs.
Water	...	10 "

When I tone I find my prints turn a horrid red colour. How can I get good tones?—**EGHAM.**

3833. Plates.—What is the sensitometer number of Ilford ordinary?—**SLOWPLATE.**

3834. Lens.—Could anyone tell me the focus of lens and number of stops in the Instantograph old pattern, half-plate?—**UNKNOWN.**

3835. Channel Islands.—As I intend spending a few weeks at Jersey in June, I shall be greatly obliged if any reader will be kind enough to give me

particulars of any choice "bits" worth photographing, also as to exposure (I am using Lancaster's half-plate Instantograph). Is there a dark-room in any of the hotels? If so, please kindly give address. I shall also be glad to know if there is any difficulty in passing the customs. Intend going direct from London by steamer.—**H. W. REID.**

3836. Norway.—Will any reader kindly tell me whether exposures in Norway during July should be the same or shorter than in England? As the days are much longer, to what hour in England would 6 o'clock compare in intensity of light? Is there much difficulty in changing plates in hotel bedrooms, from the absence of shutters? What is the Norwegian for "to change plates"? Any information will greatly oblige.—**MELCHIOR.**

3837. Toning and Fixing.—Will anyone kindly tell a beginner the best way to tone and fix prints, and which is the best paper to use?—**LIMPET.**

3838. Case for Camera.—I have a half-plate camera, Lancaster's Méritoire. Which would be the best and lightest case to get to carry it in?—**LIMPET.**

3839. Marlborough.—I am about to make a tour in Savernake Forest and that neighbourhood, and would be much obliged to anyone who will kindly say what objects of interest there are there worth photographing? Also for any hints as to light, exposure, etc.?—**AMATEUR.**

3840. Herne Bay.—Can I procure Ilford plates at Herne Bay, in Kent, and also is there a dark-room available for use?—**TENNIS RACQUET.**

3841. Portable Studio.—Will any reader oblige with working plans or drawings for a respectable-looking portable studio? Will purchase. Any suggestions from those who have built one will be thankfully received.—**EXCELSIOR.**

3842. Toning Baths, Aristotype.—Are separate toning and fixing baths, or a combined one, best for aristotype prints? Will the combined bath keep, and what is the function of the sulpho-cyanide of ammonium, which seems to be a constituent of all the formulae?—**H. C. L.**

3843. Gelatine for Opalines.—What gelatine is the best for mounting opalines; some kind that will not turn yellow with age?—**H. C. L.**

3844. Concentrated Developer.—In making up a concentrated pyro developer is it better to mix the bromide with the pyro or with the alkali?—**H. C. L.**

3845. Hand-Cameras.—Will someone who has had experience advise me which is the best hand-camera to buy for all-round work. And will they kindly give me the following information: Does the far distance in landscapes come out clear and distinct? Can portraits and interiors be taken by a fixed-focus lens? And will the negatives stand enlarging up to, say, 10 by 12? I have also a great deal of difficulty in getting aristotype prints off glass, after they have pressed on it, although I always rub it well with talc.—**MOONLIGHT.**

QUERIES UNANSWERED.

Mar. 7th.—Nos. 3528, 3551, 3554, 3556.
21st.—Nos. 3585, 3587, 3593, 3595, 3596, 3612, 3613, 3614.

28th.—Nos. 3634, 3636, 3637, 3638, 3640, 3641, 3643, 3653.

April 4th.—Nos. 3661, 3664, 3674, 3677.

11th.—No. 3694.

18th.—Nos. 3703, 3708, 3718.

25th.—Nos. 3727, 3731, 3735, 3738, 3742, 3744, 3747.

May 2nd.—Nos. 3758, 3767.

9th.—Nos. 3793, 3795.

16th.—Nos. 3805, 3808, 3814, 3817, 3820, 3822, 3823, 3824, 3826.

ANSWERS.

3783. Instantograph Lens.—I would give ¼ sec. with the largest stop ($f/11$) of the above lens, and develop slowly.—**P. K.**

3790. Wanstead Park.—I have frequently gone to Wanstead Park, taking my plates from the City, but I now find it much easier to carry empty slides, and obtain the Ilford plates, or any other kind, from Mr. Ferguson, photographic chemist, Cann Hall Road, Leytonstone, which is about five or ten minutes' walk from the park, who allows purchasers to change gratis. I found this place especially useful. One Saturday when I had the whole day in the park I had but three slides, and I went back to the above shop and put in a fresh supply.—**W. J. THOMPSON.**

3790. Wanstead Park.—Yes, you can obtain Ilford or Fry's plates at Ferguson's, photographic chemist, Cann Hall Road, and change your slides in his dark-room. I found a lot of dust and pinholes after carrying plates so far when I took them from home to business, and then to Wanstead Park. You can stop either at Stratford or Maryland Point, and get a penny tram to Cann Hall Road, which is the most direct way to Park entrance. Charge your slides, and walk to the Park. If, after exposing, you have time to return and re-charge for another batch of exposures, it is a great advantage, as there are more subjects than one day can possibly embrace.—**FALCON.**

3797. Vignette.—A light-grey coloured material.—**B. DAVIDSON.**

3797. Vignettes.—Try the usual neutral tint. Dyson's or Lund's being very cheap, and a small one would do.—**EIKO.**

3793. Background.—"Prison Yard" should hang a blanket up for a background.—**CONVICT.**

3793. Background.—Try Vever's or Lund's, or if that is too much use brown paper or a blanket.—**EIKO.**

3799. Fixed Focus.—If you have Mr. E. J. Wall's "Dictionary of Photography" you will find it stated there very fully, and from a proper authority as he is, you will get good advice.—**EIKO.**

3799. Fixed Focus.—In reply to "Puzzled," objects beyond 100 ft. would be probably in exact enough focus for his purposes, with a lens of 10½ in. focus, or if he used a stop of $f/20$, or smaller, a distance of 45 ft. would answer. He had better make some experiments. See reply to "M. R."—**J. G. P. VEREKER.**

3799. Fixed Focus.—You do not state the diameter of diaphragm aperture. You can work it out for yourself by using the following rule:—Multiply 2.7 by the square of the focal length of the lens, and by the fraction expressing the diameter of the diaphragm aperture—thus, supposing you require the nearest point in focus with a lens 10½ in. focus, using $f/10$ stop, $2.7 \times 10\frac{1}{2} \times 10\frac{1}{2} \times \frac{1}{10} = 2.7 \times 110\frac{1}{4} \times \frac{1}{10} = 29.76$ yds. (say 29½ yds.), that is to say, everything beyond 29½ yds. will be in focus. I have worked out the following for you:—Lens 10½ in. focus, $f/8 = 37\frac{1}{4}$ yds., $f/10 = 29\frac{1}{2}$ yds., $f/16 = 18\frac{1}{2}$ yds., $f/20 = 14\frac{1}{2}$ yds., $f/32 = 9\frac{1}{2}$ yds., $f/64 = 4\frac{1}{2}$ yds. approximately.—**B. DAVIDSON.**

3800. Lens.—Find out whether the marks on your stops represent their focal values. This you can do by measuring the diameters of the stops. If that is so, and you are correct in stating the lens is 4 in. focus, then the diameter of 4.9 should be 0.81 in., 7.35 = 0.054, 9.8 = 0.41, 19.6 = 0.20, 39.2 = 0.10, 78.4 = 0.05. Their relative rapidity would be approximately 24, 54, 96, 384, 1,536, 6,144; so that if in a certain light 4.9 requires an exposure of 1 sec., 7.35 requires in the same light 2½ sec., 9.8 = 4 secs., 19.6 = 16 secs., 39.2 = 64 secs., 78.4 = 256 secs. If "Vengeance" does not make the measurements agree, if he will send me actual ones, I will give him the focal values.—**B. DAVIDSON.**

3800. Lens.—The numbers marked on the stops of "Vengeance's" lens are evidently on the area system. Therefore, if he divides the numbers by 4.9 on the first stop he will get a list of comparative exposures. This will give 1, 1½, 2, 4, 8, 16. To give the actual focal equivalents is impossible from his data. He can find this out by measuring the diameters of the stops for himself. However, by multiplying his numbers by 10, and taking the square roots of the results, it gives the following scale: $f/7, f/8.5, f/9.9, f/14, f/19.8, f/28$, which is possibly the correct answer. If not, they will be some multiple of these numbers.—**G. P. VEREKER.**

3801. Platinotype.—You might try A. Garcia, 10, Plaza de San Francisco, Valencia, Spain.—**G. B. C.**

3802. Exposure.—A. R. Wormald, Sutton, Surrey; price 1s. 6d.—**B. DAVIDSON.**

3803. Jersey.—Will find June a grand month for photography in Jersey. Places of interest innumerable. Best consult a local guide after arrival. Could spend a fortnight well. De Faye, photographic chemist, 21, David Place, stocks Ilford plates.—**F. G. D.**

3803. Jersey.—Ilford's can be had from De Faye, chemist, 21, David Place.—**J. H.**

3804. Lens for Hand-Camera.—The distances "M. R." requires can be calculated from the ordinary formula. Let F be the equivalent focus of the lens, d the distance of the object, and l the length from the optical centre of the lens to the ground-glass; then—

$$\frac{1}{d} + \frac{1}{l} = \frac{1}{F},$$

or he will find them calculated out in Gotz's table of conjugate foci (price sixpence). The Optimus 5 by 4 R.E. lens is, I believe, 5½ in. focus; the distance of the object being 5 ft. 11½ ins. (say 6 ft.), the required extension is 5½ in., so a rack or sliding motion of about half an inch would be sufficient. Using a stop of $f/10$, objects at about 25 ft. distance and more would be in practical focus for direct work, the circle of confusion being about 135 in.—**J. G. P. VEREKER.**

3806. Isochromatic Plates.—These have been shown at every exhibition. In portraiture they reduce the coarseness of the features, thus saving an amount of retouching, and for foliage they are certainly the thing. They work well without yellow screen. Like most amateurs, the writer has no prints to send out to show; but experience has proved to him that once tried, satisfaction results.—**EIKO.**

3807. Quinol (Ilford Formula).—Your soda hydrate was evidently at fault. Nothing in the formula itself would account for defect.—**J. H.**

3807. Quinol (Ilford Formula).—Perhaps your chemicals were not pure. Have developed dozens of plates with it, and have not lost any, nor has the developer given out or got faulty.—**EIKO.**

3809. Diaphragms.—Any dealer would make these for you, and it would be preferable to take lens, so that the proper focal value might be marked on the stops. You could, of course, make them,

but it is best to have them made properly and to the recognised standard.—**ERIKO.**

3809. **Diaphragms.**—Of course you can make these yourself; but unless you are a practical hand at it, you had far better have a set made by an optician. Any of the advertising lens makers would cut them for you.—**B. DAVIDSON.**

3810. **Photometer.**—Decoudun's is rather unreliable and indefinite, except that over-exposure is almost a certainty. The principle, however, is of blocking out the light in such a way as to make each circle more and more indistinct. You can generally see a Decoudun's advertised second-hand in the "Sale and Exchange" column for about 4s. It would cost you much more to make.—**ERIKO.**

3810. **Photometer.**—I am afraid "Milly W." would find it very difficult to make a photometer like Decoudun's. It is made apparently by different thicknesses of paper, and afterwards made translucent, probably with Canada balsam. But the varying exposures must be found out by calculation, backed up by experiment. This would require a good deal of skill and experience.—**J. G. P. VEREKER.**

3811. **Plate-Rocker.**—Cut four pieces of strong cord of equal length, fasten one end of each piece to the ceiling, forming an oblong of about 10 ins. by 7 ins. Take a thickish piece of board, of whatever size you may require, and fasten to the ends of the cords. Place dish across, and gently swing it. This makes a very efficient rocker. If a hook be fastened in the board and another in the ceiling, it can readily be put out of the way when not in use.—**HAROLD H.**

3811. **Plate Rocker.**—Get a flat board, and at end attach a rod 2 or 3 ft. long, bendable, which curve, and at bottom fix a weight thereto. Then balance board on a flat piece of lead, bending rod at bottom until board comes level.—**ERIKO.**

3812. **Lens.**—In reply to "Milly W.," I think she would find the lens of the form known as the Eury-scope the most useful all-round lens, as it works at about $f/8$, and is, therefore, useful for portraits, besides ordinary work. If, however, she finds this too expensive, she had better get a rapid rectilinear, working at $f/8$, which is quite rapid enough for ordinary work.—**J. G. P. VEREKER.**

3812. **Lens.**—You cannot do better than to get a rapid rectilinear lens, one of Wray's or Optimus. They are the best you can have for all-round work.—**T. LAKER.**

3812. **Lens.**—I have had the use of Wray's 5 by 4 R.R. (largest stop $f/5.65$), and have found it a splendid instrument for all-round work, and can strongly recommend it to your correspondent "M. W."—**P. K.**

3812. **Lens.**—Rapid rectilinear, Wray, Optimus, Ross's, Dallmeyer's, and Taylor's all good ones.—**ERIKO.**

3812. **Lens.**—A rapid rectilinear is the best lens for all-round work. You cannot do better than get an Optimus.—**B. DAVIDSON.**

3815. **Basket Work Camera Cases.**—The only sort I know of are fishing baskets, and they are rather inconvenient for carrying. I should say that they weigh about the same as leather ones.—**G. B. E.**

3816. **Lantern Slides in India.**—Some time back the above could not be hired in Bombay, but photography and its allies are of such rapid development that an answer can only be given by someone on the spot. Home made photographic slides are much more appreciated by both European and native audiences than the usual type of hired slides. Many missionaries have lanterns and scriptural slides. At soldiers' schools there are also lanterns and slides of various sorts, the latter being usually of historical subjects, and bad at that. I have elsewhere remarked that oxygen and hydrogen cannot be bought in cylinders at Bombay.—**E. F. B.**

3818. **Films.**—I can confidently recommend the washing supports (for the new celluloid roller films), recently brought out by Mr. T. Stanway, Cauldon Road, Hanley, Staffordshire.—**A. P.**

3819. **Brighton.**—Failing anyone else, write to Mr. C. Heth'ton Lewis, of Chiara Studio, 60, Lansdowne Street, Hove, who will give you every help in his power, mentioning my name. The Editor of this paper, in his list of dark-rooms, advertises no less than three dark-rooms at Brighton. Why not write to him?—**W. A. J. CROKE.**

3819. **Brighton.**—Hardcastle, chemist, East Street, has every appliance for photography, and a good stock. Is a gentleman in every way, practical amateur, and would let his dark-room readily. Would also advise you of scenery, etc.—**ERIKO.**

3821. **Watch Camera.**—Perfectly useless. Dark (?) slides, well made but not light-tight. Would lend you mine to try. Address with Editor.—**O. LEAMINGTON.**

3825. **Backed Plates.**—If your own dealer does not keep them, he would get them for you directly. But why not back them yourself? It is very simple.—**W. A. J. CROKE.**

EDITORIAL.

NOTE.—Anyone requiring an opinion upon photographic apparatus, plates, etc., must give a number or initial for identification, as in no case will makers' names be inserted in this column.

SPECIAL NOTICE.—We are very pleased to find that replies in this column are so much appreciated, but we should be very grateful if those requiring advice would send their letters to us BEFORE TUESDAY MORNING'S post if possible. The time occupied in replying in this column is very considerable, and owing to the often late receipt of letters, many matters have to be left over each week. This we much regret.—**ED. AM. PHOT.**

ST. BERNARD.—The pictures are not published separately; but we shall be pleased to send you an autotype print of "The Children of the City." The framing is purely a matter of taste; white enamelled reeded moulding, $1\frac{1}{2}$ in. wide, makes a very effective frame.

A. H. WEBLING.—The results are not as good as the one we have. We shall be anxious to see them on the screen. Form for "Travelling Studentship" is sent you.

MADGE L. IBBETSON.—We have written to you. **OCTAVIUS STEGGALL.**—The awards were published in the issue of April 18th.

J. W.—The lens A is a cheap one, and imported from France; the mounts may be English. The B lenses are of very good quality, and we believe English. C are the best in the market, and neither of the others are to be compared with them.

J. A. S.—In either of the following cam-ras, which we place in their order of merit, we should advise you to fit R.R. lens—1, 6, 5, 7, 2, 3, 9, 4, 8. Query 1: Certainly not. No. 2: You have named the best, except those of the old form, which are more complicated and expensive.

W. J. PITCHER.—The address is sent. We know nothing of "Batten"; please let us know what he advises.

D. SYDNEY GRAVES.—If you forward stamped addressed envelope, the name and address requested shall be sent you.

WILLIAM JAMISON.—We know nothing of the firm; sorry we cannot help you; write to the Editor of the *British Journal of Photography*.

H. S. OFFICER.—It is difficult to say which of the cameras you name will stand the Australian climate best. A is very handy, and gives good pictures if subjects are well lighted. B is well made, and a useful camera in this country; the maker is a reliable man, and might give special attention to the manufacture of one for Australia. C is quite as bulky as the other of the same kind that you name, and more expensive. E and F are not made to stand the knocking about they are likely to get in your country. We have not seen B since last year, but believe it to be well thought out, and are quite sure that the maker will do his best to build you a camera that will meet your requirements. If you are in London before leaving, we shall be pleased to see you.

D. S. WHITELAW.—It is against our rule to comply with your request. You must give the make of cameras, etc., with letter or number prefixed, and we will advise you which we consider the best.

R. O. GILMORE.—Thank you very much for your appreciative letter. We are always liberal with praise when it is merited. We hope some of your members are entering for our "Travelling Studentship" Competition. Last day for entries, 14th of June.

T. H. R.—We are very pleased with your Ober-netter print of the "Amateur Haymaker," and like it better than the vignettied print at first sent. We shall hope to see your work entered in future competitions.

JOHN PRICE.—We have referred to your communication, and send you the names as requested. Please in future be careful to keep a copy of your letter asking for opinions.

HENRY R. MOISER.—Your note is just what we want for the REPORTER.

CYRIL S. COBB.—Yours dated the 6th from "Gib," did not reach us until Saturday, the 17th inst. Many thanks for MS. Hope you are having a good time. You will see this somewhere.

W. H. KERSEY.—We cannot undertake to forward letters unless stamped envelopes are sent us.

W. A. J. CROKE.—We shall be glad of MS. at your convenience.

T. O. BROADBENT.—The man's name has been added to our Dealers' List, he not being eligible to advertise in "Sale and Exchange" columns.

R. C. B.—We should not advise you to use a W.R. lens; but either an R.R. or portrait combination. You can, of course, try; but we should advise R.R. lens in the following order of make: 6, 5, 3.

W. FENTON JONES.—Thank you for name and address. Will you prospect at Worthing, and advise us of the result.

B.—We prefer the A plate. They are of very first class quality, and we have received no complaints. Your other query has been sent on to the author, who will probably write you direct.

ALIENIST.—The most useful for your purpose will be F, and the next A. We should prefer the former; it is certainly the most unobtrusive, and is quite reliable. You should have a very quick working lens for your purpose, working at $f/8$, or even $f/5\frac{1}{2}$.

J. STEWART PENNINGTON.—We consider B far away the best. It is simplicity itself. (2) The lens is a really good one; almost any speed can be

secured with the shutter; works at $f/8$. (3) Thoroughly. (4) Call and see the camera if you are in town.

G. H.—The term "genre or figure study" is used to denote that the picture is composed and the figures arranged to represent a subject or scene in life. The makers of Pizzighelli paper advertise in the photographic journals, and you will find the address of agents in our columns. We can write you a treatise upon the paper in this column, but you will find a very good account of treatment, etc., in the "Dictionary of Photography," page 134. The photograph you name could be entered in the "Travelling Studentship Competition," provided it complies with the conditions. Your letter shall be sent on to Mr. Leach.

JOHN G. LIVESAY.—Letter and contents noted.

NAGU (ASSAM).—We will write you by next mail. **F. WILLARON.**—Could you give us a call after Whitsun, on a Monday afternoon or Thursday morning?

A. H. MOORE.—Your method would be as simple as any, but using plates without sheaths or slides requires much care. After printing, fix in hypo bath if you cannot wait to tone. B and D.

CHWARELUR.—Nos. 1 and 2 are little better than toys. No. 2 is the best. No. 3 we have never seen.

KENNEDY.—See remarks in "Our Views." Entry for Monthly Competition shall be sent you.

G. R. (CORFU).—Will criticise your prints next week.

J. T. ATKINSON.—Very much obliged. Further "notes" from your pen will be much appreciated. **ENTERPRISE.**—They are none of them A; but the best is probably D, and the next is B.

ST. BERNARD.—We have used A with good result. E is a good maker, although we do not know their cameras. B has some excellent cameras, and any goods of their make you can rely upon. Very glad to see your work at any time.

W. T. ENTWISLE.—We really cannot answer your queries; we have not now the camera by us. The makers can give you all the information you require.

TENNIS RACQUET.—At present we have no "Dark Room" at Herne Bay.

T. STANWAY.—We will notice next week.

MISS M. A. HENDERSON.—Your photograph is included in those acknowledged in this week. The prizes are awarded, and those which have been commended are duly noticed in our columns. It is at present impossible for us to criticise the whole of the photographs. We will look at yours before next week. Your deposit will be quite safe in our hands.

WATKINS.—Thank you. We shall hope to give you a line next week.

Monthly Competition.

No. 12.

INSTANTANEOUS PHOTOGRAPHS, ANIMALS, ETC.

Title of Print.	Name of Sender.
An Intruder	O. L. Mackley
A Windy Day	J. Tims
Lao Negra, France	Miss M. A. Henderson
Real or Imitation	A. W. Gottlieb
Two Friends	A. Stieglitz
Tunbridge Wells Common	W. Windermann
A Quiet Spot in Cambridge-shire	J. H. Thornton
The Donkey	G. Sherriff
Children's Corner, Scarborough	P. Ellis
Feeding the Pups	A. Thomson
Oh! How Funny	Mrs. M. Coole
Alderney Bull	J. O. Bury
Cattle	F. C. Heady
A Gymnast	H. H. Hammond
Goat Carriage	Miss Beatson
Finish, 220 Yds., Liverpool College Sports	F. A. Schinwater
Gordon	Miss Boore
Study of Swans at Weymouth Boating on the Thames at Hampton	E. F. Blow
Henley Regatta, 1889	A. Youngman
The Swan's Nest (On Guard)	J. Harriman
Waiting	Miss Hands
Irish Cattle	Dr. Waterford
Driven Home	W. Pollock
Burriel Wild Sheep	J. G. Jones
In a Corner of a Sheep Fold	K. L. Reynolds
Geese	G. Hemming
Live Stock in a Farm Yard	E. Griffiths
Two Interested in Photography	Mrs. Benzon
Swannery, Weymouth	H. G. Brierley
Brighton Beach	H. G. P. Wells
A Stiff Breeze on the Clyde	F. de Paula
Spring Time	C. V. Shadbolt
Milking Time	J. O. Grant
Tossing the Caber at a Highland Gathering	B. Alfieri
Unloading, Folkestone	F. G. Smart
Group of Dexters	A. F. Jones
	Mrs. Heming

Sale and Exchange.

RULES.—Fourpence for twelve words or less, and a penny for every additional three words, must be enclosed with each advertisement, together with the name and address of the sender, which must be paid for, and sent to Hazell, Watson, and Viney, Ltd., 1, Creed Lane, Ludgate Hill. Halfpenny stamps preferred. A single figure, or group of figures undivided by letter, space, stop, or two ds, counts as one word; compound words count as two words.

REPORTING UPON APPARATUS.—The Editor of the AMATEUR PHOTOGRAPHER will be pleased to report, to any intending purchaser, upon apparatus etc., offered for sale in the "Sale and Exchange" column, provided such apparatus, etc., is forwarded by the seller to him to the offices of the AMATEUR PHOTOGRAPHER, 1, CREED LANE, LUDGATE HILL, LONDON, E.C., free of charge. The intending BUYER to pay a fee equivalent to a commission of 2½ per cent. upon the sale price of the apparatus, etc. The publishers will undertake the packing and sending of all goods at the cost of the SELLER. As far as possible, the Editor will undertake to send a report within TWO DAYS of receipt of goods.

DEPOSITS.

Deposits for goods to be forwarded on approval may be made with our Publishers, who will hold the amounts deposited until they are satisfied that the transaction has been executed to the satisfaction of both parties. Cheques and Post Office Orders should be made payable to Hazell, Watson, and Viney, Ltd. A nominal charge of 1s. is made whether a sale is effected or not.

Advertisements can be inserted under a number, the name and address being registered, and letters forwarded for a fee of 6d. to cover postage.

N.B.—Trade Advertisements cannot, under any circumstances, be inserted in this column. Such advertisements can be inserted elsewhere at the Trade Scale, which may be obtained on application to Parry and Crawford, 1, Creed Lane, Ludgate Hill, London, E.C.

Backgrounds.—Two good backgrounds, on rollers, 8 ft. by 6 ft., also 1 lb. iodide potassium; offers wanted in dry-plates or cash. — Knight, 7, Margaret's Terrace, Ilkley, Yorks.

Background on frame, 8 ft. 6 in. by 7 ft. 6 in., plain, fluted oil, and one 6 ft. by 4 ft., on swing-frame; what offers, cash or exchange? — Arthur Hardy, Hartlepool.

Burnisher.—Half-plate burnisher for sale, cheap, only used once, in perfect order; 10s. 6d.—Address, R. Simmons, High Street, Hampton Wick.

Cameras.—Marion's Academy camera, No. 2, in solid leather case; price 45s.; without case, 35s.—W. Entwistle, Milnshaw House, Accrington.

Cameras, etc.—Stereoscopic Company's Artist's half-plate camera, four double dark-slides, R.R. black-band lens, in leather case, perfect order; £10.—Major Becher, 94, Piccadilly.

Luzo camera, quite new, with about 80 exposures, new celluloid film, takes perfect negatives, and guaranteed thoroughly efficient; cost, with 100 exposures, £4 14s.; will sell 50s.—A. M. G., 2, Crofton Terrace, Kingstown.

Cameras, 15 by 12, good as new; 10 by 8, new.—Apply, Camera, Abshott Road, Titchfield Common, Hants.

Marion's Parcel camera, with 12 plate-bags, in good order; £2 2s.—Barker, 18, First Avenue, Brighton.

Square whole-plate camera, reversible, swing-back, 14 in. focus, 9 by 7 R.R. Optimum lens, three double dark-slides, dozen plates, £5 10s.; 130 parts AMATEUR PHOTOGRAPHER, 40 parts Wilson's "Philadelphia Photographer" (no pictures), some miscellaneous photographic journals, 25s.—Camera, 95, Hill Street, Lurgan, Ireland.

Half-plate camera (by Theobald), good lens, double slide, stand, nearly new; 20s.—Nokes, 103, Berridge Road, Sheerness.

Will exchange light half-plate camera, all movements, conical bellows, three slides, for half-plate camera with square bellows, suitable for stereoscopy.—Gould, 19, James Street, Liverpool

Canvas Case.—Must sell half-plate canvas case, new; cost 10s. 6d.; take 5s. 6d.; approval.—Simpson, Wonder Street, Wakefield.

Developing Trays.—Quarter, 5 by 4, and half-plate Anderson's patent developing trays; cost 4s.; price 2s. 6d., carriage paid.—F. Sharpe, Oakham.

Focussing Screen.—Tylar's half-plate focussing screen and double slide; wanted, quarter double slides.—Alex. Moore, Newtownards.

Hand-Cameras.—Detective camera, perfect, as new, six double backs for quarter-plate lens, complete; cost £8 10s.; will take £3 10s.; bargain.—Knight, 13, Albion Street, Leeds.

Optimus Magazine camera, cost 6 guineas, takes 12 plates, never used; cash 5 guineas.—N., 5, John Street, Ryde, I.W.

Abraham's detective camera, takes 12 plates, changing by lever, rectilinear lens, adjustable shutter; £5.—Apply, E. W. P., 18, Gatcombe Road, Tufnell Park, N.

Harmonium.—Folding harmonium, rosewood case, four stops, double set reeds, three-octave, ex-

change for quarter camera; what offers? — Laker, Queen Street, Deal.

Lenses.—Optimus 7 by 5 R.R. lens, only used a few times; approval.—Address offers, M'Gahery, 19, Waring Street, Belfast.

Ross's portable symmetrical lens, No. 4, 6 in. focus, large stop, 7½ by 4½; £2 17s. 6d.—J. Walker, 132, Lansdowne Road, Didsbury, Manchester.

Suter's f/3.4 aplanatic, 7 in. focus, new, covers whole, cost £3 15s., price 55s.; Lancaster's quarter instantaneous lens, Iris diaphragm and shutter, 14s. 6d.—Summers, jun., 23, Cheapside, London.

I have a splendid half-plate R.R. lens for sale, with Waterhouse diaphragms; cost £3; price 25s.; a bargain; approval with pleasure.—F. Sharpe, Oakham.

Optimus Euryscope, 5 by 4, nearly new, good condition; exchange for Optimus rapid rectilinear, 5 by 4, or sell for 47s.—Pratt, 27, Regent Street, Nottingham.

For sale, an excellent cabinet portrait lens, 18s.; also a 5 by 4 portrait lens, covers well, 15s.; also quarter-plate portrait lens, 15s.; all three second-hand and capable of doing best work; together or separate; chance for beginners; write.—Edwards, Station Road, Manningtree, Essex

For sale, a half-plate R.R. lens, with Waterhouse diaphragms; cost 75s.; will take 40s.; no approval, but prints sent of work done with it.—K., Clarke's Library, Richmond Road, S.W.

Print Washers.—Whirlpool and Rocking Cradle washers, in good condition, also half-plate view lens, cheap — Baxter, Bramley, Leeds.

Rolling Press, etc.—Photographic double geared rolling press, steel plate, 18 by 12, 60s.; half-plate landscape lens and instantaneous shutter, 30s.—G. Jones, Wheelgate, Malton.

Sets.—Would exchange new half International set for Instantograph R.R.—T. Maides, Midhurst.

Wray's 5 by 4 rapid rectilinear lens, new, Lancaster's quarter-plate Instantograph, with stand, Kershaw's pneumatic shutter, new, with changing bag, etc., £3 10s.; lens alone, £2.—R. Ballard, 12, Highbury Terrace, N.

Half-plate Instantograph (Underwood's 1898), one dark slide, tripod, R.R. lens with Iris diaphragm, as new, cost £8, bargain, 75s.—A. Rowe, Wallbridge, Stroud, Gloucestershire.

For sale, Lancaster's quarter-plate Merit camera, in thoroughly good condition, with lens, three double dark-slides, and tripod stand; cost two guineas; will take 25s.—F. W. Sears, 1, Creed Lane, Ludgate Hill.

Meagher's whole-plate bellows camera and five slides, rectilinear lens, solid leather case, stand, etc., £7 10s.; 5 by 4 set, 35s.; cabinet portrait lens, 5s.—Mr. Stewart, 17, Upper Gilmore Place, Edinburgh.

Marion's 5 by 4 camera, lens, two double slides, and tripod, complete, almost new; lot 23s.—Alf. Jeffery, 8, Recovery Street, Leeds.

Exchange quarter plate camera set, nearly new, for good donkey.—Reid, 160, Albert Road, Peckham.

Quarter-plate Kinear camera (by Horne, Thornethwaite, and Wood), long-focus, swing and reversing back, swing and rising front, three double dark-slides, Beck's 7 in. focus Autograph lens, with Iris diaphragms, new, and Newman's shutter, Watson's cyclist stand, waterproof sling case; £5; approval; deposit.—Hubert Henry, 110, Westbourne Terrace, W.

Lancaster's 1889 half-plate Instantograph lens, shutter, double slide, and tripod, perfect condition, very little used; 66s., cash.—W. J. Woods, 67, High Street, Maidstone.

Half-plate camera, with three double slides (by Perkeo, Son, and Rayment), lens, 8 by 5 (by Ross), canvas case, and stand; what offers? or would sell camera and case alone, good as new.—E. C. Brown, 386, Kingsland Road, London, N.E.

The following complete set, owing to owner going abroad:—Park's 1890 Victoria camera, 10 by 8, with three double slides and spring catches, Tylar's covers for slides, stand (by Gotz), Wray's 10 by 8 R.R. with Iris, ditto W.A.R. Thornton-Pickard shutter, Taylor and Hobson's R.V. lens, 10 by 8, Iris (never used); all lenses fit one flange; two cases, also lot of sundries; the lot was quite new a month or two ago; will be sold separately or in lots.—Fur full particulars, apply, F. A. Graham, Albion Stores, Stockton-on-Tees.

Half-plate single extensio camera (by Meagher), as new, three double backs, tripod, carriers, etc.; cost £8 10s.; price £5 10s.—Orme Studio, St. Petersburg Place, Bayswater.

Lancaster's Le Merveilleux 1887 camera, with Hockin's Dissideratum single lens with stops (old lens included), tripod stand, one double back, with canvas bag and straps, the whole in splendid condition; £1 1s.—F. Carter, Waltham Abbey.

Shutter.—For sale, Phantom instantaneous shutter, with pneumatic release; cost 27s.; take 12s. 6d.; fit a hood up to 2½ ins.—F. Sharpe, Oakham.

Slides, etc.—What offers for three Tylar's metal whole-plate double slides, with adapter for Lancaster's cameras, in good condition? — Parritt, 103, Camden Street, N.W.

WANTED.

Backs.—Two half-plate Instantograph backs, cheap.—Emeny, 7, Cadogan Terrace, London, N.E.

Camera, etc.—Half camera and double slides, also

8 by 5 lens, by good maker. — Lea, Athelhampton Dorchester.

Portable half-plate camera and stand, any good make—Baker, Baths, Clevedon.

Watson's Acme whole-plate camera and backs, Beck's R.R. whole-plate lens, with Iris diaphragms.—Gilbery, Room 79, 139, Cannon Street, London.

Camera Case.—Camera case, canvas or leather, cheap, quarter-plate.—G., 127, Manor Street, Clapham.

Dark Slides.—Two dark-slides, half-plate.—Henry Lord, Town Street, Batley Carr.

Lancaster's quarter-plate metal slides.—M. White-side, St. Nicholas, Cardiff.

Three to six half-plate dark-slides, to fit Lancaster's Instantograph; state lowest price.—H. Walker, Winkley Lane, Heckmondwike.

Hand-Cameras.—Hand-camera, Ideal or Rouch's preferred, quarter-plate, also Wray's 5 by 4 R.R. lens, separate, or with camera.—Brotherton, Cullercoats.

Detective or hand-camera, good condition.—F., 31, Beaconsfield Villas, Brighton.

Lenses.—Half-plate wide-angle lens, perfect condition.—G. O. D. Rice, Trinity, Cambridge.

Half-plate wide-angle lens.—Address, Penn, South Castle Street, Liverpool.

Ross's rapid symmetrical lens, 6 by 5, perfect.—C. St. James Villa, Maidenhead.

5 by 4 or half-plate R.R. lens, for cash.—Crossley, Rodley, Leeds.

Sets.—Half camera, all movements, double extension, leather bellows, three double backs, tripod, Underwood's or Lancaster's, must be cheap.—Tims, 4, Heatherside Road, Ewell, Surrey.

Half-plate set, for views, etc., in good order, for cash, must be cheap.—Full particulars to R. Williams, London Villas, Rusperidge, near Newham.

Instantograph half-plate camera, dark-slides, stand, also R.R. lens; exchange lantern (Hughes), 4 in. condensers, 4-wick patent lamp, portrait lens, as new, carrier, two dozen slides; worth 50s, for either, or lantern and 30s. for set.—73, Waterloo Street, Burton-on-Trent.

NORTH MIDDLESEX PHOT. CLUB.—A photographic outing of the above club will be held on Monday, the 26th inst. The members will meet at Paddington Station at 10 a.m., and proceed to Cookham, and work to Maidenhead. Friends and visitors are invited to join.

NATIONAL PHYSICAL RECREATION SOCIETY FOR THE PROMOTION OF PHYSICAL RECREATION AMONG THE WORKING CLASSES.—At a meeting of the Executive Committee of this Society, held at the offices of this Society on Monday last, it was reported that the Royal Agricultural Hall, Islington, had been secured for the purpose of the annual display, which has been fixed for the week commencing Monday, 26th May; and will include mass gymnastics, physical exercises by girls, quarter-staff play, reel dancing, boxing, musical drill, football matches, and a house on fire, with the rescue of the inmates by the Metropolitan Fire Brigade. The arrangements are under the immediate superintendence of Mr. Herbert Gladstone, M.P., Colonel Fox, and the Honorary Secretary, Colonel Onslow.

PLEASURE CRUISES to the LAND of the MIDNIGHT SUN.—The ORIENT COMPANY'S steamships GARONNE (3,876 tons) and CHIMBORAZO (3,847 tons) will make a series of TRIPS to NORWAY during the season, visiting the finest fiords. The dates of departure from London will be as follows, and from Leith two days later:—

June 4th, for 15 days	July 15th, for 15 days
June 18th, for 27 days	July 29th, for 27 days
June 25th, for 15 days	Aug. 8th, for 21 days

The steamers will be navigated through the "Inner lead"—i.e., inside the fringe of islands off the coast of Norway—thus securing smooth water; those of the 18th June and 29th July will proceed to the North Cape, where the sun may be seen above the horizon at midnight. The Garonne and Chimborazo are fitted with electric light, hot and cold baths, etc. Cuisine of the highest order.

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NOTICES AS TO ADDRESS.

PUBLISHING DEPARTMENT.—All letters containing Subscriptions, Orders, Remittances, SALE AND EXCHANGE Advertisements, or other business matters for the *Amateur Photographer* are to be addressed to the Publishers, HAZELL, WATSON, AND VINEY, LD., 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

NOTE.—SALE AND EXCHANGE Advertisements, at the charge of Three Words for One Penny, can be received as late as WEDNESDAY MORNING.

ADVERTISEMENT DEPARTMENT.—All communications respecting TRADE Advertisements in the *Amateur Photographer* are to be addressed to PARRY AND CRAWFORD, 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

NOTE.—Trade Advertisements are received up to Tuesday morning.

EDITORIAL DEPARTMENT.—All Literary Contributions, Queries and Answers, Photographs for Competition or Criticism, Books or Apparatus for Notice or Review are to be addressed to the Editor, *Amateur Photographer*, 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

NOTE.—To ensure insertion all Communications should reach the Editor on Tuesday.

CORRESPONDENCE SECTION.—Anyone wishing to communicate with Contributors can do so by forwarding such Communication in stamped envelope under cover to the Editor, *Amateur Photographer*, 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

THE "AMATEUR PHOTOGRAPHER" FIRST LADIES' PHOTOGRAPHIC COMPETITION.

PRIZES.

First Prize	Gold Medal.
Second "	Silver Medal.
Third "	Bronze Medal.

(These Medals, of the smaller series, will be appropriately mounted as Brooches).

SUBJECTS.

Landscape or Seascape—Landscape with Figure—Genre or Figure Study.

All Photographs must be received on or before the 31st of May.

NOTE.—The adjudication will be made by lady artists and lady photographers. It is hoped that it will be possible to make arrangements to exhibit the photographs at a *Conversazione* to be held in the offices, 1, CREED LANE, E.C., during the month of June.

Further particulars on application to the Editor, "*Amateur Photographer*," 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

"AMATEUR PHOTOGRAPHER" MONTHLY COMPETITIVE PAPERS, 1890.

The following Prizes are offered for competition every month:—

Three Prizes of £1 1 0 each.
Three Prizes of 0 10 6 each.
And Three Certificates.

The Papers must not exceed 1,000 words; and those which are awarded Prizes will be published in the *AMATEUR PHOTOGRAPHER*; others will be selected, and will be arranged for publication in the

"AMATEUR PHOTOGRAPHER'S ANNUAL."

Contributions are to be upon the subjects as list given below; and in order to make the matter more interesting, it is requested that each competitor shall give his *personal experiences*. It is intended that each subject shall be written up by a specialist for the *ANNUAL*, and the latest information given. All MSS. must be received not later than the

28TH OF EACH MONTH.

Subjects.

28th May	Exposure.
28th June	Plates and Films: their Development and After Treatment.

All MSS. to be addressed to the Editor, "*Amateur Photographer*," 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

"AMATEUR PHOTOGRAPHER" MONTHLY COMPETITION.

No. 13.—LANDSCAPE OR SEASCAPE.

Prizes—Silver and Bronze Medal with Ribbon and Clasp.

ONE PRINT ONLY. Must be sent in on or before the 14th of June, endorsed "Monthly Competition," etc., to

THE EDITOR, "AMATEUR PHOTOGRAPHER," 1, CREED LANE, LONDON, E.C.

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PRIZES.

First Prize	£30 0 0	Third Prize	£14 0 0	Fifth Prize	Silver Medal
Second "	£21 0 0	Fourth "	Gold Medal.	Sixth "	Bronze "

The "AMATEUR PHOTOGRAPHER" Certificate, duly signed by the Judges, will be presented to the Prize Winners.

SUBJECTS FOR COMPETITIONS (Not less than Six Prints):

LANDSCAPE or SEASCAPE. — LANDSCAPE with FIGURE. — GENRE or FIGURE STUDY.

Rules, entry forms, and forms for declaration will be ready shortly. All those wishing to compete should apply to—

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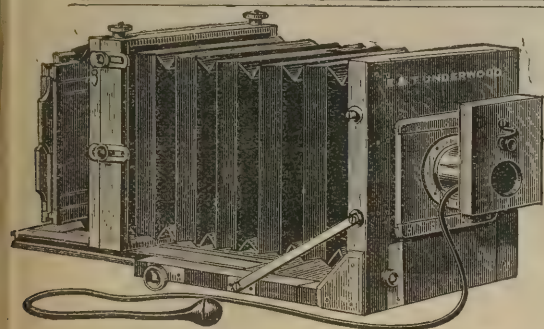
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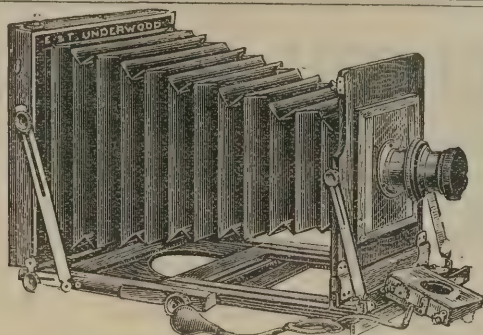
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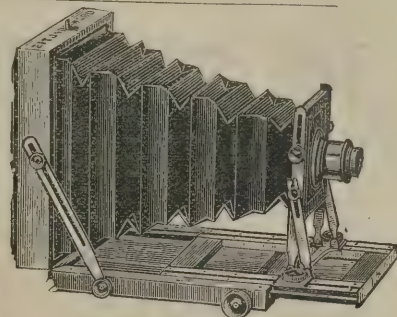
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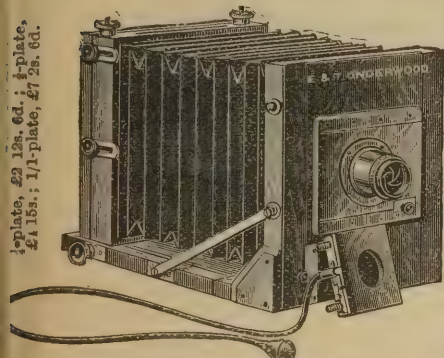
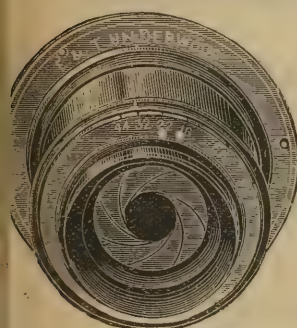
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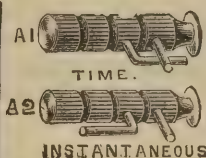
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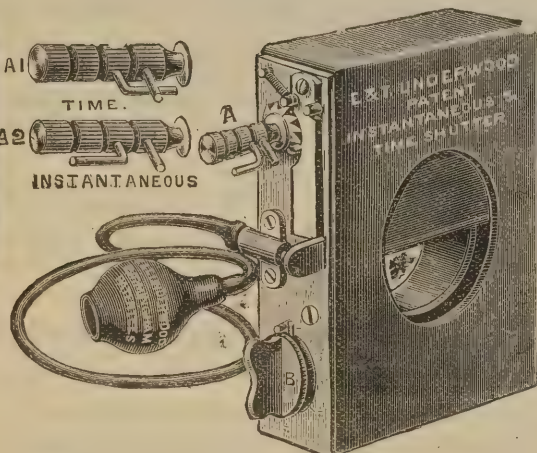
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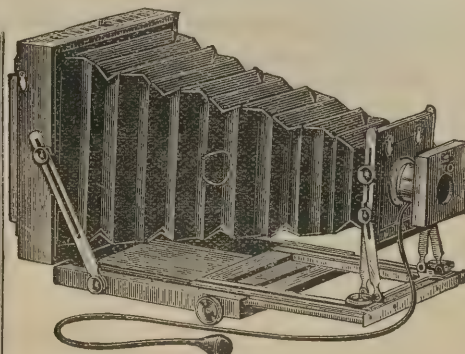
TIME.

INSTANTANEOUS



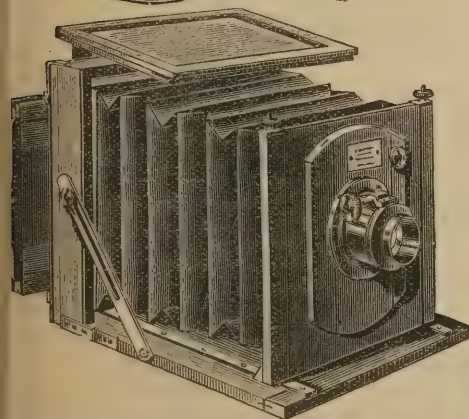
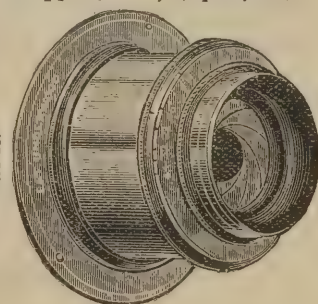
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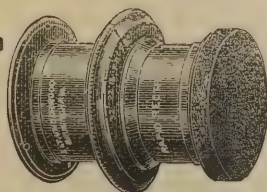
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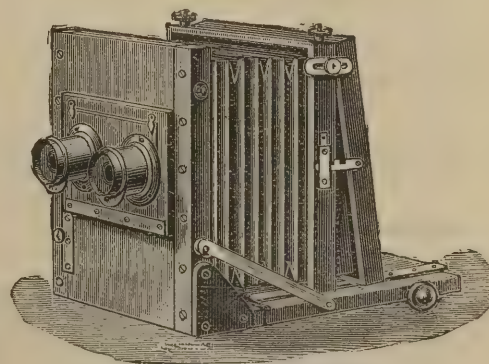
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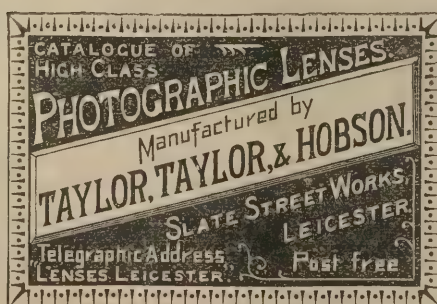
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VOL. XI. No. 295.]

FRIDAY, MAY 30, 1890.

[PRICE TWOPENCE.]

OUR VIEWS.

To hold as 'twere the mirror up to nature."—*Shakespeare.*

THE courteous Secretary of the Society of Arts (Mr. H. Trueman Wood) has received at Her Majesty's hands the honour of knighthood, in recognition of the services rendered by him as Secretary of the British Section of the Paris Exhibition. Sir Trueman Wood was the life and soul of the South London Photographic Society, which was dissolved some few years since. He is a member of the Council of the Photographic Society of Great Britain, is one of the few honorary members of the Camera Club, and takes the keenest interest in all photographic matters. His knowledge in many branches, especially photo-mechanical work, is, perhaps, unsurpassed. We are sure that no Birthday honour is more deserved than the knighthood of the Secretary of the Society of Arts.

* * * *

WE have pleasure in announcing that the City Photographic Exhibition will be opened at Drapers' Hall, free, to-morrow (Saturday), and will remain open until the 10th of June. This (Friday) evening a soirée will be given by Sir Albert K. Rollit, LL.D., M.P. (Chairman of the Council). A very distinguished company have been asked to attend. The Exhibition is promoted by the Photographic Section of the Chamber of Commerce, and members of the Chamber may purchase tickets for the soirée at the offices, Botolph House, London, E.C. At present we have no official particulars of the exhibits, but hear from a side wind that the invitation to traders and professional photographers has been freely complied with. Our readers will perhaps remember that this exhibition is entirely confined to the trade, but it is, we hear, probable that an exhibition may be promoted entirely confined to the work of amateur photographers.

* * * *

THE Automatic Photograph (Foreign and Colonial) Company has just been launched, and a prospectus has reached us. The capital is put at £251,000 in 50,000 shares of £5 each and 1,000 founders' shares of £1 each entitled to one half the surplus profits over 15 per cent. in each

year. The prospectus reads on:—"Every allottee of 100 ordinary shares and upwards will be entitled to *subscribe at par* for one founder's share in respect of each one hundred shares allotted." This permission is conceded as a great privilege. Our only experience in founders' shares is in connection with a colliery company, in which the shares were forfeited after trading a very short time; we thought such catch-pennies as "founders' shares" had been played out long enough ago. The price to be paid for the patent rights is absurd, *i.e.*, £500 in founders' shares, £130,000 in cash, and £70,000 (making £200,500) in shares or cash at the option of the Directors. We do not think that many of our readers are likely to invest in either the home or foreign Company, but if they both float, the effect upon the home Company may be very serious, for the foreign Company will, of course, be compelled to manufacture the machines in the country in which they are protected, and will also be able to supply the English market with machines, to the great detriment of, we should think, the home Company. As far as we know, no trouble has been taken to ask a committee of experts to examine the machines or the photographs produced. The Press notices sent out with the prospectuses are of the usual after-champagne-luncheon style, and are valueless from a photographic point of view. A writer in the *British Journal* thus draws attention to the scheme:—"The calculation as to the profit of £31,000, or 31 per cent., is based on their working 365 days in a year, without any allowance for fogs and continued wet weather when people would scarcely go to be taken. The accounts given make no allusion to any means of regulating exposure to the light, which now is different to what it will be at Christmas."

* * * *

THE Tunbridge Wells Society of Arts announce the holding of their first exhibition under very distinguished patronage; the exhibition will include photography. Mr. N. Strange, of 48, High Street, Tunbridge Wells, will furnish further particulars.

LADIES' COMPETITION.—All photographs must be received by Saturday, May 31st, 1890.

OWING to the mass of correspondence we have received *re* Mr. F. D. Bulmer, we are compelled to hold over our article upon his system of business until next week. If any other readers of the AMATEUR PHOTOGRAPHER wish to give their experience, we shall be glad to hear from them not later than Monday morning's post.

* * * *

WE have received from Mr. J. J. Briginshaw, Honorary Secretary of the Photographic Convention, details of excursions, and note that they are proposed to be as follows: Tuesday, June 24th, Conway, Bettws-y-coed, and Moreton Old Hall; Wednesday, the 25th, Eaton Hall; Thursday, the 26th, Vale of Llangollen; Friday, the 27th, Royal Mersey Yacht Regatta, and Hawarden. Permissions to photograph have been given—by the Dean of Chester, to photograph the Cathedral and precincts; the Duke of Westminster, Eaton Hall, interior and exterior; Rev. S. Cooper Scott, St. John's Church and ruins; the Hon. W. H. Gladstone, M.P., Hawarden Castle and park. This very brief synopsis will give some idea of the outdoor work members of the Convention will have the opportunity of doing. The subscription to the Convention is very small, and we are sure that no one interested in photography will grudge the few shillings for which so many privileges are conceded.

* * * *

PROFESSOR MELDOLA delivered an interesting discourse at the Royal Institution recently, on the subject of "The Photographic Image." He dealt with the chemical questions which had arisen during the progress of photography, from the time of Daguerre downwards. He devoted some considerable portion of the time to silver and its action under light, but he pointed out that even now, after much time had been given to the study of the subject, there were many points which were a puzzle to the chemist.

* * * *

Scribner's Magazine is always interesting, but the June issue is especially so, as it contains an article by Mr. Henry M. Stanley, on "The Emin Pasha Relief Expedition," illustrated with reproductions from photographs made by members of the Expedition. The frontispiece, a portrait of Mr. Stanley, is from a photograph taken at Cairo in March, 1890; another excellent illustration is that of Stanley, Nelson, Emin, Casati, Jephson, Stairs, Bonny, and Parke, from a photograph taken at Urambiro. Perhaps the most interesting is the group of Wambutti dwarfs—the first ever photographed. Of these Mr. Stanley writes: "Scattered among the Balesse, between Ipoto and Mount Pisgah, and inhabiting the land situated between the Nzaiu and Ituri rivers, a region equal in area to about two-thirds of Scotland, are the Wambutti, variously called Batwa, Akker, and Bazangu. These people are undersized nomads, dwarfs, and pygmies, who live in the uncleared virgin forest and support themselves on game, which they are very expert in catching. They vary in height from three feet to four feet six inches. A full-grown male adult may weigh ninety pounds." In order to show the stunted growth of these dwarfs, they are posed in front of some of the native carriers who accompanied the Expedition.

WE shall be pleased to receive short articles descriptive of "Holiday Resorts and Photographic Haunts," especially short accounts of districts in and around large towns where good work for the camera may be found. These articles should not contain less than 500 words or more than 1,000. In every case a proof will be sent to the author for revision, and, if desired, a few slip proofs for distribution.

* * * *

As there is a considerable amount of clerical work entailed in sending out letters of introduction, etc., for dark-rooms, we must ask that all applications be endorsed "Dark-Rooms," in order that the letters may be attended to by the clerk especially told off for that purpose.

* * * *

THE photographs entered for the AMATEUR PHOTOGRAPHER "First Ladies' Competition" will be judged on the 12th of June, by ladies, at the Hotel Métropole. We have every reason to hope that Mrs. Eveleen Myers, the accomplished photographer, will honour us by giving her services. Two lady artists, who have not yet been secured, will assist her, and we are hopeful that arrangements may be made to show the pictures either after the adjudication on the 12th, or on the 13th. If this can be arranged, due notice will be given in next week's issue, and invitations sent out to competitors and others.

* * * *

WE would remind our subscribers who intend to enter for the "Travelling Studentship Competition" that we shall be glad to receive their pictures as early as possible, in order that the work of classification and registration may be proceeded with. We publish particulars of the competition on the inside of back page of cover. Entry forms, declarations, etc., will be sent at once upon application.

* * * *

MR. PETER MACNAB, who is well known as an artist and a writer, has consented to contribute an article to the July number of the PHOTOGRAPHIC QUARTERLY, entitled "Is Art Indebted to Photography?" Other articles already arranged for are "A Plea for Systematic and Associated Photographic Work," by the Rev. T. Perkins, M.A.; "Some Points in Connection with Light and Photography," by Mr. T. R. Dallmeyer; "Photography in Natural Colours," by Mr. F. Bligh Bond; "Photography during a Tour in Egypt" (illustrated), by Major J. Fortuné Nott; "Portraiture and Journalism," by Charles E. Pearce, etc., etc. The frontispiece will be a reproduction by an entirely new process of a photograph of the Sphinx, taken by Major Nott whilst on tour in Egypt. The foregoing will show that the standard reached will be maintained. We are pleased to be in a position to state that Mr. Jerome K. Jerome, the gifted author of "Idle Thoughts of an Idle Fellow," etc., has promised us an essay, but it will not appear before October, or possibly not till the January issue.

* * * *

THE GROSVENOR GALLERY.

THERE seems to have been a supposition abroad that this year's Grosvenor would not be a success. That supposition has happily not been realised, and we think that although

this popular exhibition has lost, of late years, much of the definite teaching which once characterised it, it has gained a wider sympathy, and appeals to an ever-increasing circle of the art-loving public. It is no longer didactic, yet it has not ceased to be instructive. Whatever particular style of painting may be admired by the visitor, he is sure to find something that will appeal to his special taste. Is he an admirer of the school of Mr. Whistler? Then let him turn to Mr. Stott's work, "Soft Winds" (No. 11), and "Diana—Twilight and Dawn" (No. 190). Why the title of the first has been chosen, it is difficult to see. However, the colouring is at any rate attractive, the rendering of the clouds being the best part. We do not think that a photographer could profit much by the lines of composition in 190, yet it has an originality all its own. If strange and startling eccentricities, where the artist strives to create a new heaven and a new earth out of his own fanciful brain, be sought, let the visitor turn to Nos. 120 and 128, by Mr. Millie Dow; if he hanker after the Academicians (who, however, do not assemble in any considerable force), he will find an admirable portrait of Orchardson by himself, and Mr. Pettie has produced a really excellent work in No. 115. No. 19, too, is an original subject. Mr. Moore's "Sand-laden Surf" (No. 63), although the breaking wave on the far right is not quite successfully rendered, is a subtly telling sea piece; and No. 263, a seaside sketch, by Willie, shows him at his best. If anyone is more fond of the modern school, whose eyes see and whose hands translate on to the canvas principally the soft greys of nature's colouring, then let him contemplate at his leisure the dim beauties of Mr. Halswell's "Early Moonrise, Venice" (186), or "Oporto," by Hemy (174), where, however, we must stop to find fault with the perspective, for either the trees at the right-hand bottom corner ought to have been very much larger in proportion to the rest of the composition, or else they should not have been introduced at all. Then there are Mr. Priestman's broad sketches, with their superabundance of foreground—No. 6, for instance—but No. 13 is more successful, the subject suiting this particular style of painting better (though, for all that, the artist would be more truthful if he suited his style to his subject, rather than his subject to his style). The grey sea or ship scenes of Mr. Brangwyn are always charming, because one knows so well, in nature, that grey look in sea and sky, reflected on all surrounding objects, which characterises bad weather on the ocean (No. 219). No. 45, by the same artist, is a genre picture of great merit, representing a group of sailors discussing the news over their "beer and baccy." The lines of composition are admirable, though there is some little mistake noticeable in the drawing of the left hand of the sailor on the far right. If the visitor desires to study the "strong colour" school, he has Mr. Melville's "Audrey and her Goats" (109), where everything is sacrificed to paint—another illustration of the evils of eccentricity carried to extremes.

Of other pictures we would point to No. 4, with respect to which we question the accuracy of the painting of the road, with its down-hill appearance. No. 26, a shrimp catcher examining his net as he stands in the sea, which breaks in little ripples on a sandy shore, while a fishing boat lies anchored in the middle distance, and trawlers stand out upon the horizon under a grey canopy of sky, is a telling picture from which there is much to be learnt. No. 51 marks a study of French work. In No. 61 notice

the inaccurate drawing of the white horse. In No. 66 the idea of shade under the trees is well brought out. No. 68, a lioness suckling her cubs, entitled "Maternity," is one of the pictures that would serve to redeem the Exhibition from the charge of commonplaceness. It is seldom one sees so truthful a representation of animal life; the expression of contentment mingled with watchfulness is most admirably conveyed by the pose of the head and glance of the eyes in the recumbent beast. No. 82, "Light of Light," is clever and full of religious feeling. No. 92 is pretentious, but fails to be a success; if the sea was really so rough as it is painted, it would be dashing over the pier every instant, and nobody could stand there; moreover, why is the dog introduced? No. 93 is attractive and rather after the Barbizon school. Of No. 102, Sir Coutts Lindsay's picture, the less said the better. In No. 129, a Venetian sketch—the bores of the Galleries, as Venetian pictures are often dubbed—it is refreshing to find in the foreground a boat that is not a gondola. In 149 there is a good grouping arrangement. 173 is a gorgeous Byzantine piece of painting; 185 is clever; in 196 notice the entire absence of shadows, which would be impossible on a day so apparently bright. No. 203 is a good portrait, and No. 220, by Nelson Dawson, must not on any account be missed; it is a pity that such a clever picture should be skied.

The Director (Sir Coutts Lindsay) has hung several pictures on the stairs this year—a draughty place to view them from. The best is No. 379, altogether one of the most striking pictures exhibited, and reminds one of some of Vertschagin's work. It is entitled "Sevastapool," and represents a priest reading the burial service over a trench in which are innumerable bodies of slain soldiers; the ground is covered with snow, and in the distance stand a body of troops. No. 242 is a suggestive piece of work, and Nos. 333, 346, 371, and 372 are worth a glance.

But the gems of the Exhibition are Mr. David Murray's landscapes, Nos. 59, 71, 181, and 192. In 71, "Sundown," he is hardly at his best, but 192, "A Summer Breeze," suits him better; the stirring of the elder bushes is almost apparent. In Nos. 59 and 181 we see this artist really in his element; 59 represents some sheep browsing amongst high-growing greenery in a field, with a distant village, nestling amid the trees, and a lowering sky. It is instructive to compare this with No. 55, by Guthrie, a picture in which the artist relies entirely on the broadest rendering of his subject without the least attention to detail, whilst Murray manages to introduce just that amount of elaboration of detail which is sufficiently accurate to convey his meaning. Constable has said that "a servile imitation of every detail in nature is fatal in painting landscape; the painting of a tree may be too good, it may be made so good that it becomes good for nothing." We may conclude also that if it be merely a blotch, it will not be a tree at all. Guthrie falls into the blotchy error, Murray preserves the happy mean. Here is a lesson for the advocates of the smallest stop, on one hand, and the largest, on the other. Let us learn from Mr. Murray to adopt the happy mean. No. 181 is a large and more pretentious composition; the bright summer evening is skilfully managed, and the whole scene is fully worthy of this rising artist's reputation. He always has a lesson for landscape photographers. Let the reader go and study his four works at the Grosvenor.

Letters to the Editor.

PHOTOGRAPHING ABROAD.

SIR,—Perhaps the following notes of a three months' tour abroad last spring (1889) may be useful to some of your readers, especially as I see queries sometimes asked, whether it is desirable to develop or not on the journey, and in this case I did so. I took notes at the time, thinking that one day or other they might be useful to my brother amateurs, in your columns. My outfit consisted of a quarter-plate camera, six double backs, my lens was a 5 by 4 Wray rapid rectilinear, some four or five dozen Thomas plates, a couple of packets celluloid films, a bottle of the London Stereoscopic Company's hydroquinone developer, a box of Eastman's developing powders (all of which pleased me much, a pound of hypo in a tin (I should by rights have taken more, for I had to buy some in Rome, where they charged me a franc a pound), two developing trays, a four-ounce glass measure, portable lantern (I bought candles as I went on), a few sheets of ruby paper, and some elastic bands, all of which I carried in a canvass bag with strap handles, that opened out like a pocket-book, having pockets on either side, and also an outside pocket with straps at each end, so that I could sling my camera legs through, and I had also a black bag with strap handle, useful on journeys for carrying guide-books, etc., and which I used, whilst stopping in a place, to carry my camera, etc.

We left England the middle of March, our first stopping place being San Raphael, a nice little seaport town on the Riviera, about thirty miles west of Cannes, a place full of interest to the photographer, for on one side was the little port and harbour, and on the other the Esterelle Hills, with fine groves almost down to the sea, and also the luxuriant foliage of the Riviera, and presenting everywhere lovely bits. Not far from San Raphael and within easy walking distance is Frejus, an old Roman town with the remains of a large amphitheatre and aqueduct; and Treport, a quaint little port (which, however, we did not visit) not far off, and whilst we were there a branch railway between the two places was opened. I have dwelt somewhat lengthily upon San Raphael, for it does not seem so well known as it should be, and to any one who requires rest and change, and yet does not care to go to the more fashionable places on the Riviera, and yet wants something to interest them, San Raphael would be the very place, added to which the charges were moderate at the hotel we stayed at, and we also found the same as regards carriage hire, etc. I found, close to the cathedral a photographer, M. Ferrari, who had a branch establishment at Nice, and who very kindly developed some dry plates at a moderate charge, and said he would be glad to do so for amateurs.

From San Raphael we went to Cannes. There I found a most obliging photographer, "Photographie Buisson," 12, Boulevard de la Croisette, close to the post-office and on the Plage, who also developed for me, and allowed me the use of his dark-room, and will be glad to do the like for other amateurs. There are two shops in Cannes where you can buy photographic materials, one in the old town in the Rue Frejus, and the other, De Bray, in a short street on the left hand just off the Rue des Antibes (the principal main street). The attractions of Cannes are so well known that I will not dilate upon them, but here I found the advantage of taking your camera, for, wishing to get some views of Pegomas, a pretty village some six miles off, where I took some views, although I hunted all round Cannes, I could not get any.

At Mentone, M. An. Fosse, rue Partoneux, near the post-office, will develop for you and supply photo materials; at San Remo, J. Scott, 16, Rue Victor Emmanuel, will develop for amateurs; at Sienna there is a photographer, whose name I forget, but whose studio is close to the Piazza de Signiora, and up some three or four pairs of stairs, who will develop for you.

In Rome you can purchase English plates and materials of Mr. J. Juliana, 147, Via Babuino, close to the English church, and who will tell you where you can get your photographs developed; and there are two or three shops in the Corso where you can get plates and materials, and the same applies to a large shop in the Via Nazionale, not far from the Quirinal Hotel.

In Vienna, Oskar Cramer, The Graben, one of the principal shopping streets, and not far from the Cathedral (St. Stephano), will develop for you, and you can get materials, and also at a shop opposite, but I could not get English plates—possibly they were out of stock.

In Prague, Mr. Adolf Fische, 23, Ferdinand Strasse, had Lancaster's cameras (and I think plates), and will be very glad to develop for you or to be of service to you.

In Dresden, Mr. Ernest Kessler, 3 and 4, Britestrasse, near the post-office, sells photographic materials, and will develop for you.

In Berlin, I am told, there are excellent shops where you can buy English plates and apparatus, and where they will develop for you, but our time was too short to make full inquiries.

We also visited Spezzia, Perugia, Bologna, Ravenna, Padua, Venice, and Gratz (the latter an extremely pretty city between Vienna and Venice), and where most beautiful views of the district can be purchased, and I have little doubt that at all these places, and also at Pressburg, a quaint little city on the Danube, about forty miles south of Vienna, the photographers there would develop for amateurs, but the places I have mentioned before in detail came under my special notice.

I regret extremely that my very imperfect acquaintance with foreign languages has prevented me from obtaining much valuable information which I found our foreign *confreres* were always ready to impart, and I most strongly urge upon all your readers who may be thinking of following my example the very great importance of knowing as many languages as possible, or at any rate French; but failing this, it would be of very great service if some one would compile a little hand-book with a few useful phrases in French, German, and Italian, and I subjoin a few which in my opinion would be useful:—

PHRASES REFERRED TO.—*At a photographer's:* Have you any English plates? What makers—sizes? Will you develop my plates (or prints) for me? How much apiece (or dozen)? When will they be ready? Can they be ready (at 11 to-morrow)? Can I use your dark-room? What developer do you use? Is there a photographic society in the town; if so, who is the president or secretary? What is the principal object of interest to photograph? Where can I get permission? What time of day should it be taken? Have you any pyro, or hypo, etc., etc.? How much a pound, or ounce. *In the Street:* Is this the way to —? How far is it? *At the Place:* Will you have the kindness to allow me to photograph? Please get out of my way for a few minutes. Now be off, you boys, don't pester me! *At the Custom House:* These are photographic plates only. Please open only in a red light.

Although it may be a great bother taking your camera with you, especially if you take your own developing materials also, even with my increased experience I would do it again, and I am sure it vastly increases the pleasures of a tour to do so. I never found the slightest difficulty in developing in hotels; you have this great advantage, you know what you are doing as you go on, and thus many a picture you would be very sorry to miss can be retaken if necessary, and also if your plates are exposed you can effectually prevent any custom-house difficulty, and whilst at Vienna I got prints in duplicate from several of my best negatives, and thus prevented the risk of any breakage, and thus losing the results of one's labour.

With regard to films, I like them very much, but I did not care to risk using more than a few, but before I go abroad again I mean to use them pretty freely, so as to get accustomed to them, for I am convinced if they can be made as good as glass, they will be an immense boon to the traveller, and there will be this advantage, you can enclose the negatives in letters home, to be developed there if necessary, or better still, if you develop as you go on, and enclose them home in letters, what a new interest they may add to one's letters home.

I very much regretted I had not with me a hand-camera. Most people are acquainted with views of the great Continental cities, etc., but it is just those little bits of places or architecture, or the scenery or the usual incidents of life (take a railway station or a market with its crowds of people, for instance) that one wants to take, and here a hand-camera comes in so useful.

From all classes I met with the most courteous treatment. Of course, when I put up my camera a small crowd usually gathered, and the small boy and the loafer is the same all the world over, but I never was at all hindered, but, on the contrary, either pretty views were pointed out, or little courtesies shown; and here again I found how valuable it would be to have known the language, instead of the mixture of French, Italian, and Yorkshire, and signs one was reduced to. I never had the least difficulty at the Custom House either abroad or coming home.

From my inquiries I found that the bulk of foreign photographers use ferrous oxalate, and a few use a pyro developer, but I did not hear of any using hydroquinone.

This outing was the first I had ever taken with my camera abroad, and if some of your readers follow my example and have as much pleasure as I did, they will not repent it.—Yours faithfully,
Selby, 17th May, 1890. J. T. ATKINSON.

* * * *

KODAK CAMERAS AND LENSES.

SIR,—Mr. F. T. Norris has had the courtesy to send me a copy of his reply to my last week's communication to you, which reply I suppose will be published in this week's issue of the AMATEUR PHOTOGRAPHER. In this reply, Mr. Norris returns to the attack upon Kodak lenses with what appears at first glance to be admirable courage, but which will appear upon more careful reading to be a studied dodging of important data.

I understand that Mr. Norris in his original communication made this specific statement, that "the Kodak and some other hand-cameras have no more expensive a lens than a single non-achromatic, objective, costing, first cost, about sixpence each."

This statement exhibits plainly two facts, which are of the utmost importance in estimating the value of Mr. Norris' information or opinions upon photographic matters—

(1) It proves that at the time he made the statement referred to, he did not know what the construction of the No. 1 Kodak lens was.

(2) That he considered the mere fact of a non-achromatic photographic objective working at fixed focus a vital fault. Both prove that he is one of those critics described in my last communication to you, who rush into print upon matters with which they have no accurate practical, or for that matter, theoretical, knowledge, and still worse, that he had no compunctions of conscience or considerations of ordinary fairness to prevent him from making a deliberate mis-statement concerning the cost of an article of the construction of which he was absolutely ignorant.

In his last communication Mr. Norris entirely evades the one vital point when he says "that sufficiently deep meniscus or periscopic lenses able to do very similar work to those of the Kodak can be bought at," etc., etc.

The difficulty, however, is not to make one lens of indefinite focus, or for that matter one hundred lenses of varying foci, which might be used in cameras capable of adjustment to their special requirements, but to produce a large number of lenses of little or no variation in focus which can be used in a camera not capable of adjustment.

The size of the No. 1 Kodak, notwithstanding the adverse opinion of some persons, is one of the most important features contributing to its unparalleled success. To increase its size in any way would shut out thousands of purchasers who would not be tempted to carry anything larger.

Further, can it be possible that Mr. Norris does not know that a lens working at fixed focus need not be achromatised, and that the reason why watches can be and are made so well and cheaply is simply because they are so commonly used that the demand warrants the use of machinery of such value that no photographic enterprise can for one moment be compared to it?

Viewed from a purely business standpoint, Mr. Norris' arguments must strike my fellow manufacturers of photographic apparatus with a strange mixture of despair and envy—despair, that with all the ingenuity, skill, and patience evinced in the great number of hand-cameras which are now offered publicly from a value of 5s. upwards, there is still a dissatisfied and irreconcilable faction who want something cheaper—envy, that after much study, investigation, and special business experience, we have all lived to learn from a novice that our very specialties can be produced for a tithe of what we thought them well worth.

But for fear that such an opportunity may not occur again, I want to contract with Mr. Norris for the delivery of 1,000 pairs of lenses of the same quality as those used in the No. 1 Kodak at the price he mentions they may be produced at, namely, three-pence. The only conditions I impose are that they shall fit the standard Kodak tube, and be subject to the same test which all these lenses undergo at our hands, the negatives of which are on file at our works.

We hope Mr. Norris will have the courage of his convictions.—
Yours truly,
May 21st, 1890. WILLIAM H. WALKER.

SIR,—In your issue of the 23rd inst. I read with pleasure a letter by F. T. Norris, in which he speaks of the price of deep meniscus or periscopic lenses. If that gentleman would kindly inform the readers of your valuable paper the address of some firm where such lenses can be obtained at about the price he mentions, I am sure such information would be gladly accepted by many, who, in making their own cameras, would be in want of the simple lens, without going to the extra expense of purchasing one elaborately mounted, thereby very much increasing the outlay. I suppose such lenses would give a sharp definition, otherwise they would not be of much use.—I am, etc.,

HIERONYMUS.

* * * *

INEXPENSIVE HAND-CAMERAS.

SIR,—I am glad to see that my letter of the 9th has brought forth such practical replies as those of your correspondents "T. D." and "S. E. K." By a curious coincidence, in the same number of the AMATEUR PHOTOGRAPHER in which my letter appeared is an illustrated article descriptive of a new camera, circular in form, the shape I advocated, and which is certainly the best. But another coincidence this week's journal contains three advertisements of newly-devised hand-cameras at very reduced prices. But very much more in the way of lowering charges must be effected before a fair figure is reached that allows a reasonable margin of profit to the manufacturer. I maintain that the present prices of lenses and cameras are out of all proportion to the cost of production, and when this is generally known (as I trust it soon will be), one of the chief of the many burdens that oppress the long-suffering amateur will be removed.

Turning to your third correspondent, Mr. William H. Walker, who writes in reply to remarks of Mr. Norris, Mr. Davies, and myself, I would explain that, far from finding fault with the Kodak, I have the highest opinion of it. For over two years I have constantly used one in my many wanderings in Europe and Africa, and have always found it work wonderfully well. I have taken over 300 photographs with it, and out of the last 100 films got ninety good negatives. My complaint lay not with the instrument, but with its absurdly high price. Mr. William H. Walker, in his unintentionally amusing, though unnecessarily peevish reply, with true American ingenuity has managed to advertise and parade the wonders and numbers of the different kinds of Kodak, though modestly omitting to mention the large prices these same Kodaks are sold for. Mr. William H. Walker's dissertation on the educational advantages of a German University career is interesting, if entirely inaccurate and beside the question. While denying Mr. Norris's statement that sixpence is the *exact* cost of the Kodak No. 1 lens, Mr. William H. Walker, with laudable discretion, carefully avoids saying how many fractions of a shilling Mr. Norris is wrong in his estimate. It would, moreover, be extremely interesting if Mr. William H. Walker would furnish a waiting world with a few details of the meaning of his sentence beginning, "The Eastman Company gave *carte blanche* to two of the most respected and successful makers of photographic objectives in Great Britain," etc. The novelty of a commercial company offering open terms to foreign producers for goods, and especially stipulating that those goods should be superior to its own, is most refreshing and certainly peculiar. The subject would prove of exceptional interest to the student of racial characteristics when it is remembered that this magnanimous and disinterested offer was made by an American firm. For a transatlantic tradesman to refuse voluntarily to settle terms when giving out an order is a species of originality that must be unique even in the States—a country where originality is seen at its best, and where imitation is perfected to a fine art. But probably in the misty mazes of French words, German universities, and the comparative merits of European and American manufactures, Mr. William H. Walker has got a little beyond his accustomed tether. The connection between his business occupation and the wide fields of science, education, and trade in which he wanders airily in his letter, is certainly not obvious. To a gentleman of Mr. William H. Walker's encyclopædic knowledge it may seem presumptuous to offer advice. In fear and trembling I may, however, suggest *Ne sutor ultra crepidam* to his serious attention. In conclusion, I would further humbly ask of Mr. William H. Walker, when he has leisure from his Napoleonic responsibilities in connection with the Eastman Company, to furnish your readers with a plain answer to a simple

question—What is the actual cost of production of a Kodak (No. 1) lens, and what is the actual cost of production of a finished Kodak (No. 1) that is sold for £5 5s. 2—1 am, etc.,

Trieste, May 20th, 1890.

F. G. B.

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THE INTRODUCTION OF BROMIDE INTO THE DEVELOPER.

SIR,—I trust that little apology is necessary for bringing forward a subject which must be of great interest to all connected with photography; I refer to the method of introducing the restrainer into the pyro-ammonia developer.

In the first place, everyone who has used this developer knows how liable a plate is to fog in the absence or deficiency of "bromide," while we can altogether dispense with it in the pyro-potash developer. Now, most amateurs have introduced their bromide of ammonium or potassium into the ammonia. But, in my opinion, it is a great mistake to thus mix restrainer and accelerator in one solution. It surely bears a remarkable resemblance to the mad engineer, who invented a locomotive so constructed that augmentation of steam pressure produced a corresponding increased power on the brake. In the case of photography it is not so bad as that. An increase of ammonia solution does produce some acceleration; but how much greater if the restrainer were removed. Think too of the economy.

But besides the above-mentioned disadvantage, the association of bromide and ammonia in one solution produces in time a result that I have not before seen published. It is well known that every opening of the ammonia bottle allows the gas in some measure to escape and to diminish the potency of the liquid. But, be it remembered, the restrainer has not decreased *pari passu* with the power of the accelerator. Hence, little by little the ammonia solution is losing strength, while the amateur is losing courage, being at a loss to explain the reason of having to use such an inordinate amount of accelerator. He puts it down to under-exposure, goes to the other extreme, and over-exposures; thus photography is so difficult! For these reasons it is far more suitable to mix the bromide *separately* in a 10 per cent. solution, and using therefrom the quantity determined by the plate makers requisite for their plates; thus will he effect a considerable saving in chemicals, adopt a more truly scientific developer, and undoubtedly diminish the chances of his failing.—Yours, etc.

C. S. M.

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PHOTOGRAPHIC SOCIETY FOR RICHMOND.

SIR,—As far as I can ascertain, there is no photographic society in Richmond or the neighbourhood. As there are, without doubt, many amateurs residing here, perhaps these lines in the AMATEUR PHOTOGRAPHER may be the means of starting such a Society, which I should think would find many supporters.—I am, yours faithfully,

E. G. RICHARDSON.

20, Hermitage Villas, Richmond, Surrey.

May 27th, 1890.

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THE CRYSTAL PALACE AWARDS.

SIR,—In your issue of May 23rd, p. 368, I notice a statement that *all* the medals have been forwarded to the prize winners at the recent Crystal Palace Exhibition, but I fancy you must have been somewhat misinformed. Two medals were awarded to me, one for photo-micrographs, and another for microscopic lantern slides, two distinct classes, of course; but *one* medal only has been sent me, with an inscription on the rim stating that it is the medal awarded in class C, sec. 3, and class A, D, sec. 10. I have explained to the managers that this hardly agrees with my idea of getting *two* medals, and have informed them that my opinion is that I have a distinct claim to another separate medal. Therefore, as far as I am concerned, the statement quoted above would be quite correct were it to run, "*All the medals but one have been forwarded*," etc.—Yours faithfully,

ARTHUR A. CARNELL.

Bedford Villa, Plymouth, May 27th, 1890.



THE "PHOTOGRAPHIC QUARTERLY."—A correspondent in Dublin writes, "May I say a word of congratulation on the PHOTOGRAPHIC QUARTERLY, to which I look forward with great pleasure. Its publication gives quite a new dignity to photographic journalism."

The Complete Photographer;

OR,

THE MODERN RECREATION OF CONTEMPLATIVE MEN.

By H. P. ROBINSON.

CHAPTER XI.

Printing. Platinotype. Silver.

PHOTOGRAPHER.—I presume that you will print almost entirely in platinotype, or some other of the matt-surface processes, which are much more artistic than anything that can be done on an albumenised or any other glazed surface. Silver printing has been often doomed, but is not yet played out, although I think that in the future its use will be confined almost entirely to professional purposes. For one thing, platinotype is much easier and more simple than silver printing; it is more speedily done, and free from many of the perplexities and pitfalls that occur in the older method. It has one apparently great difficulty, which, however, vanishes with better acquaintance—it is a development process, and the depth of printing is not visible until it is finished; but half the care, attention, and observation that are necessary for successful silver printing will conquer the apparently difficult task of judging correctly when a print has been sufficiently exposed.

I don't care to weary you on any subject that has been previously well and simply done, and not lost in the fog of many words, and the directions supplied by the Platinotype Company are so clear, precise, and—greatest merit of all—short, that I cannot improve on them; and other platinum processes have been ably described in Mr. Lyonel Clark's little volume on "Platinum Toning;"* but you want to see me go through the processes I practice, so I must not omit this one. Besides, who knows? I may vary minutely, as is orthodox in great inventors, from the Company's directions. As for the other platinum processes, I can only recommend you to read Mr. Clark's book, and also to procure the materials supplied for his own excellent process by Mr. Blanchard, and follow his directions.

What is called the hot-bath process of platinotype is the one I prefer, probably because it is the oldest, and I have had more experience with it than the others, and that is the one I shall take you through.

Platinotype paper can be obtained cut to suitable sizes and is of several qualities. For sizes 10 by 8 and upwards I prefer C paper, which is thick and strong, and has a rather rough surface. For smaller work a smoother paper seems desirable; the distinguishing mark of this kind is A. The printing is done in the usual manner in a pressure frame, and as it is absolutely necessary to keep the paper dry, vulcanized rubber pads are used. The colour of the coated paper is a bright lemon-yellow. It must be remembered that it is much more sensitive to light than albumenised silver paper, and will not bear the reckless exposure before printing that is so common with silver printers. Your first print, until you have acquired skill in judging, must be an experimental one. If your negative is such as those we developed, with the darks represented by bare glass, and the whole plate full of gradations, and if also the light is good, we may expose the frame from 30 to 45 minutes.

PUPIL.—Shall we give it the longer time, to show we are not impatient?

PHOTOGRAPHER.—The time being up, we will lift the half-back of the frame and examine the print in a dim light.

* "Platinum Toning," by Lyonel Clark. London: Hazell, Watson, and Viney, Ltd., 1, Creed Lane, Ludgate Hill, E.C.

The darks are rather strongly marked in grey, and the rest of the picture, except the lightest gradations, can be faintly seen. We will develop it at once. The developer is made by dissolving 1 lb. of oxalate of potash in 54 ozs. of water, practically a saturated solution. It has now to be made hot. For this small size we will use an enamelled iron dish. For larger sizes I use a trough of the same material, in which the print, weighted down with a heavy glass rod, is easily drawn through the liquid.

We now put the dish of developer on a tripod over the flame of a Bunsen burner, and heat the liquid to 150 degs., which we ascertain with a thermometer. I now float the printed surface of the paper, carefully avoiding air bubbles, for 5 or 6 seconds, and at once throw it, face downwards, into a dish containing a weak solution of hydrochloric acid—the proportion 1 oz. of acid to 60 ozs. of water. It will remain there 10 minutes, and two similar baths of fresh acid will follow; meanwhile, we may look at it.

PUPIL.—A good print, but rather too dark.

PHOTOGRAPHER.—You are right. Mark the negative "35 m.," which means that in a good light, which you must learn as a standard, the negative will take 35 minutes, if developed at a temperature of 150 degs.; it will then be easy for you to judge how much more it will require in a dull light. If, however, you had other similarly over-exposed prints, and if the temperature was allowed to fall to about 140 degs., they would probably be right. If under-exposed, raising the temperature to 180 degs. may be resorted to, and within this limit, the higher the temperature the better the colour.

PUPIL.—I am glad you have mentioned the colour; I have always thought platinotypes too cold.

PHOTOGRAPHER.—That has greatly improved lately. I think the C paper gives a better black than the others. I will now show you how to get a warmer black. I have provided other prints to develop. The dish contains about 20 ozs. of developer. To this we will add half an ounce of saturated solution of bi-chloride of mercury. We again raise the temperature to 150 degs., and develop another print. After leaving it in the acid bath a few minutes, we compare it with the first print, and find that although we obtained a fine black in No. 1, the second is warmer and more agreeable in colour. I was first told of this improvement by Mr. Wilson Noble, but it was also arrived at independently by Ralph W. Robinson, in a curious series of experiments, which reminded me of Charles Lamb's Chinaman burning down his house so that he may enjoy the luxury of roast pig.

The prints are now fixed, and only require washing for a quarter of an hour in several changes of water.

PUPIL.—Nothing could be simpler or apparently easier than platinotype printing, and I think I shall in practice not complicate it with any other; but I should just like a glimpse at the older process.

PHOTOGRAPHER.—Silver printing need not occupy much of our attention, but I will briefly run through it.

Buy your paper ready sensitised, avoiding the double albumenised. There are many good makes in the market. Print rather darker than you would have the finished print. Wash the prints at least 20 minutes, moving them about, in three or four changes of water. In cold weather keep the water and all the solutions up to at least 60 degs. Tone in the following bath:—

Borax	..	..	..	..	5 drms.
Water	..	..	..	..	3 pints.

Add chloride of gold in the proportion of $1\frac{1}{2}$ grains to each full sheet of paper (23 by 17). There are many varieties of toning bath, the most popular of which is the acetate of soda; but I much prefer borax. Many of the other baths

give a purple tone, which is anything but artistic; with borax you get a variety of brown tones down to black, which are much more agreeable. It is usual to direct that this bath should be thrown away after once using, but it will keep good and tone well for five or six times—fresh gold being added—when it becomes of a dark purple and the prints are not so rich. It is well to be liberal with the gold; a quickly toned print is brighter than one that has soaked in the bath for a time, and there is nothing wasted, for it is easy to save gold residues. When the gold is exhausted, the prints you attempt to tone become a dirty brown and lose brilliancy. The addition of fresh gold at this stage helps the tone, but does not restore the freshness of prints that have been any considerable time in a solution of borax deficient in gold.

The prints, as they are toned, should be put into a dish of water until all are done, when they must be fixed in

Hyposulphite of soda	..	..	..	3 ozs.
Water	..	..	..	1 pint
Ammonia	..	..	..	10 minims.
Methylated spirit	..	..	..	1 oz.

The ammonia and spirit are added in the hope of preventing blisters. These torments are a comparatively recent invention of the enemy. I do not remember them before ten years ago. The prevailing epidemic in prints up to that time was measles, of which I have seen very few cases of late years. Blisters seldom appear until the prints are at the final washing water, and you find them useless just in the end of your work, and you are congratulating yourself that you have secured a splendid batch of prints. Further precautions have still to be taken against this pest. After fixing in hypo for a quarter of an hour, in which they should be moved continually, the prints should be removed to a dish of water, into which a handful of salt has been thrown, in the hope to imitate the density of the hypo solution, and finally thoroughly washed. Even this must be done with method. The salt water should not be thrown off at once, and replaced with water of a different density and temperature, but plain water should be gradually added until the salt is gone. The prints must then be washed for at least six hours in many changes of water. The final operation is to put the washed prints between sheets of white blotting paper. If they were now taken out and left to dry, they would curl up, and the albumen surface would probably crack. To prevent this, they should be removed while damp to fresh dry blotting paper for an hour, and finish in still another lot of blotting. This will prevent them curling, and make them dry as flat as you can expect paper to do that has one side glazed with a contracting varnish.

(To be continued.)

BIRKENHEAD PHOTOGRAPHIC ASSOCIATION.—In the annual out-door competition which is to take place at Bidston, Cheshire, to-morrow (Saturday), a silver medal will be given for the best set of six pictures, irrespective of size.

TO IMPROVE FLAT PLATINOTYPES.—Hans Leuhard, of Vienna, recommends the following as a remedy for flat or greyish platinotype prints: 125 grammes of pure gelatine are melted in 1,000 c.c. of water, and the whole gradually brought up to boiling point. After removing from the fire, add 125 grammes of pulverised alum, and dissolve by stirring. Take of this solution one part and water two parts, pour into a flat dish, which should be kept warm by being set in another dish of warm water; immerse the platinotypes to be treated in this bath, and allow to remain for some minutes, then transfer to a dish of cold water and dry between blotters. It will be found that this treatment will restore the vigorous appearance

The Stereoscope.—III.

BY VALENTINE BLANCHARD.

THE high-water mark of popularity for the stereoscope may be fixed at about 1862, and it is curiously noteworthy that while the great exhibition of 1851 practically gave birth to it, the next great exhibition—that of 1862—saw it at its fullest growth. The enterprise of the late Mr. Nottage, of the Stereoscopic Company, secured the exclusive right to photograph the noteworthy objects in that wonderful collection, and he gave into the hands of Mr. England the entire control of the stereoscopic department, and it is not too much to say here that no one could have been found more able for the work. There have been many exhibitions since, but never such a beautiful series of stereoscopic slides, to perpetuate the remembrance of them.

The demand for England's slides of the Exhibition was simply incredible. How many reams of albumenised paper were employed, and how many pounds of silver and gold were consumed, it is difficult to state now; but some idea may be formed of the enormous production of stereoscopic slides when it is remembered that Mr. England, in a paper read before the Photographic Society, May 5th, 1863, on "The Recovery of Silver and Gold from Residues," stated that he recovered 1,000 ounces of silver during the winter. This would represent the waste products of less than a year, for the Exhibition did not open till May.

Shortly after this memorable period a decline in popularity commenced for the stereoscope, and though for several years there was a steady demand for the well-known work of Wilson, Bedford, England, York, and others, a new craze had arisen, and the *carte-de-visite* and album portrait was destined to eclipse the old favourite. It had a reign of about twenty years, however—a pretty long one for any favourite.

In America there was a revival in the popularity of the instrument, and this was due entirely to the improvement made in it by Oliver Wendell Holmes, who was at one time an enthusiastic photographer. As we shall have occasion to describe this instrument fully later on, we will merely say here that it was not boxed in, and was very efficient and extremely inexpensive in comparison with the instruments that preceded it.

It became a question with many American enthusiasts to make collections of the slides of all the well-known photographers all over the world, and to have them catalogued and stored, so as to be ready for reference at a moment's notice. They formed, in fact, stereoscopic libraries, and each tried to outdo his neighbour in the completeness of his collection. Long after the demand had ceased in England, the writer, among others, had repeated orders from the well-known house of Anthony, in New York, in order to make complete these collections.

The demand lasted longer abroad than with us, and England's series of Swiss views were in demand on the Continent several years after the period when interest in the stereoscope had entirely ceased in this country. This history would be incomplete without reference to the remarkable productions of Breeze. At one of the exhibitions a circular stand with eight or ten stereoscopes attached to it speedily attracted the attention of every one interested in the photographic art, for these instruments contained a series of pictures quite different to anything that had ever been exhibited before. They were transparencies, and were illuminated from behind, and in this respect were not different to thousands that had preceded them, but the mode of treatment was altogether so different that speculation and argument arose as to the method of production. As these instruments were carefully sealed, and were

besides firmly attached to the stand, it was absolutely impossible to peep behind the scenes.

The subjects were most varied, but in all there was an entire absence of the usual defect in photography, viz., a want of harmony between foreground and distance. In one there was a view taken in the neighbourhood of the Crystal Palace, for there was the sparkle of sunlight on the distant glass-covered roof; indeed, the whole landscape was bathed in sunshine, and there were no black shadows anywhere. High up in mid-heaven a balloon was careering across the field of view, and there was the glitter from the blazing sun on its silken sides. Every detail of the fleecy cumulus clouds was also visible, and yet everything was in perfect harmony. In another subject, "A Lonely Seashore," the crests of the breaking waves were apparently molten silver, sparkling in the rays of the full moon overhead. The Press of the period went into raptures over this picture, and told the astonished world that at length photography had accomplished the impossible, and that in future there would be no difficulty in photographing moon-lit scenes, for what had been done by Breeze would, after a time, be done by others. This picture puzzled photographers, for there was no doubt about the moon; it was not a painted one, for all the markings to be seen in the moon at the full were there, delicately but perfectly rendered.

In another subject there was a cruel piece of rocky coast lashed by angry waves, but over all there were murky, sullen clouds, evidently illuminated by a red-faced sun, retiring in a groggy condition for the night.

In none of the varied subjects exhibited were there any that resembled the ordinary photographs produced at that time. There was an artistic completeness about them altogether unusual, and the question was constantly asked how they were produced, for ordinary methods and appliances failed to furnish such results. For a long time Breeze kept his counsel, and it was only after several years that his method of working was made public.

Breeze was a most painstaking man, and spent an amount of time over each of his subjects that at the present moment seems incredible. In every case different negatives were taken for foreground and distance, and in some there were as many as four negatives employed. In the moonlight one, for instance, a photograph of the moon was taken, and as it would be very small when produced in an ordinary camera, the negatives were enlarged sufficiently to make the moon large enough for pictorial purposes. By the aid of a repeating back, the two enlarged transparencies of it were made to fall $2\frac{3}{4}$ inches apart on the same plate. This transparency was placed behind the one showing the breaking waves, and as the moon was made to occupy as nearly as possible the position of the sun when the picture was taken, the effect of light and shade was perfectly natural. To heighten the effect of moonlight, the part occupied by the sky was carefully masked so as to enable the moon transparency to produce its full effect.

In the Crystal Palace picture the balloon and clouds were on separate glass, and were placed behind the landscape transparency, and as, of course, the negatives were taken at the same time and with the same effect of *chiaroscuro*, the combination picture appeared beautifully atmospheric and natural.

In like manner artistic dodges gave to the wild and stormy seascapes their mysterious and weird effects, for in some cases the cloud transparencies were toned to a kind of tawny dun colour, and in others a transparent stain was applied to one of the glasses so as to obtain the effect required. All the methods adopted by Breeze to gain his effects were never published, but it will be admitted by all those who remember his productions, that they fully

deserved all the praise that was bestowed upon them at the time. The mode of production was so slow that though a high price was charged for these remarkable slides, they never thoroughly repaid Breeze for all the time and trouble bestowed upon them, and so after a comparatively short time their publication stopped and they became things of the past.

(To be continued.)

Printing in Gelatino-Chloride.

JUDGING from recent reports, albumen printing is still—at least, amongst the profession—the most popular, perhaps we may say the most common, of printing processes, and the invention and introduction of new modes of transferring the photographic image to a paper support, though making much progress lately, has not yet considerably reduced the output and sale of the above commodity. It may no doubt be put down principally to acquired habit amongst the profession, and to the question of price which rules the market. Wherever the latter is not of the first consideration, printing processes pretending to higher claims of art have made great progress, in fact become the favourites. These are notably the emulsion processes, amongst which the Obernetter process of gelatino-citro-chloride holds, probably, the first place.

We include in this designation all the printing processes now practised under different names, but which are simply copies, more or less modified, of the original process of the renowned experimentalist. What is singular is that this excellent process should have lain dormant for over twenty years, practised only by a few special men of professional reputation, and that the advent of gelatine, and the consequent recasting of the principles of the process should have brought it to be the favourite printing process of the amateur of the present day.

The process may be properly described as the "chloro-citro-gelatine emulsion" process, and the paper prepared as a commercial article is still made and sold under that name, though the numerous copies of the article have adopted fancy names, the most known amongst them being the so-called aristotype.

Apart from the chemical constitution, we have in the chloride emulsion a process which holds the image as it were in a transparent medium, as in a negative, hence the greater brilliancy, fineness, depth, and roundness of image as compared with printing surfaces which are more sunk into the texture of the paper support. In fact, no preparation for receiving the positive image is able in so high a degree to render all the fine detail and gradation of tone and definition of the negative as the gelatino-chloride emulsion. This arises partly from the above mechanical constitution, partly from the fact that the slow chloride emulsion has of itself an exceedingly fine grain.

It is this quality, coupled with the general excellence of the paper, which have won for it the place it now holds; and the great variety of tone responding almost to every taste or fancy, and suited to the greatest variety of subjects possible, will, no doubt, assist to keep it in favour. With respect to sensitiveness, gelatino-chloride stands at the head of the printing-out processes, platinotype being at present left out of consideration.

Comparison is best made with a clear plate of glass in the printing frame, behind which two slips of paper are simultaneously exposed.

The toning quality, after a certain time of exposure, may then be noted, and the tint obtained before and after toning compared. The two (taking albumen as the mate-

rial of comparison) are like a poor plate and a plate rich in silver salts. There is more work to be done in the rich emulsion, and more is done. The depth also to which gelatino-chloride will print even after albumen ceases to be any more affected is remarkable, and a purple-black is reached before any bronzing sets in.

Numerous forms of toning bath are applied to the gelatino-chloride paper, the chief ingredient besides the gold being the sulpho-cyanide of ammonium. This salt enters into the composition of the image, contributes to its richness, depth, and tone, and has to be replaced in the toning bath when it is exhausted.

For a 15 grain bath the formula runs:

Water (distilled preferable)	.. 35 ozs. or 1 litre.
Sulpho-cyanide of ammonium	.. 5 drms., 20 grammes
Hypo-sulphite (optional)	5 to 15 grs., 1 gramme.

Into this pour a solution of 1 tube (15 grains) of gold chloride dissolved in 3 ounces of water, stir up and shake both during the precipitation of the gold, until the latter is dissolved, then add 10 to 15 ounces of water. Bath to be perfectly clear and colourless. This bath gives cold purple tones.

Warmer tones are obtained with acetate of soda, as follows:

(1.)	
Water	 18 ozs.
Re-crystallised acetate of soda	.. 4 drms.

When dissolved, add

Gold solution (1 per cent. strength)	.. 1½ ozs.
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(2.)	
Water	 18 ozs.
Sulpho-cyanide of ammonium	.. 2½ drms.
Gold solution as above	.. 1½ ozs.

The gold solution is here equally divided between the two halves of the bath, which should be mixed shortly before use. For reddish-brown tones 10 to 15 grains of hypo-sulphite of soda may be added.

The acetate bath gives fine brown tones, and would, no doubt, be more generally used but for its uncertainty, the acidity of the bath being at times a troublesome factor. Next to acetate of soda, tungstate of soda, phosphate of soda (giving nearly black tones), chloride of lime, etc., have been pressed into the surface, each giving a slightly different tone to the print, though in the writer's opinion it would be difficult, if not impossible, for anyone to say in which toning bath a print has been toned, on the strength of its brown, black, or purple tone, the quality of which, next to the gold itself, more depends on the sulpho-cyanide of ammonium than any other toning agent.

One of the many varieties is a toning bath containing the necessary quantity of hypo-sulphite of soda for fixing the prints while toning, which has been extensively used, but seems to decline in public favour.

The simplest toning bath is that suggested by Mr. W. K. Burton, C.E., of Tokio, Japan. It runs:

Hypo-sulphite of soda	 3 to 4 ozs.
In water (distilled preferable)	.. 20 "
Gold chloride	 6 grs.

to which Mr. Chester Jervis adds 3 grs. nitrate of lead, in order to preserve perfect whites. This it effectually does. Toning is very slow with this bath. The tones range from a sepia brown to an engraving black, but they lack the richness obtained by the use of the sulpho-cyanide of ammonia, and we have no positive assurance of their permanency. No after-fixing is necessary, but thorough washing and aluming must be very carefully attended to.

Last of all, a concentrated toning solution has been

compounded for the emulsion paper. This is supplied in 50 c.c.m. bottles, which quantity is diluted with distilled water to 20 times its bulk, and used as a toning bath. This is a solution which has for a long time been desired by a great many, and will be welcome to hundreds of amateurs.

There are two solutions, A and B, either of which may be used, or both jointly, to make up a toning bath.

The one gives fine rich brown tones, the other black, and is especially suited to the matt-surface paper brought out lately.

The tone obtained with the combined bath is the finest black, with a tinge of purple in the half tones and perfect whites.

Toning goes on rapidly, fixing and aluming in the usual way, but three washes in water (distilled preferable) are recommended *before* the prints are placed in the toning bath. There is, we should say, likely to be a brisk demand for this particular paper and bath.

Toning chloride prints presents no difficulty whatsoever, except that usually seated in the operator's head, who has in most cases been taught to tone on the lines of albumen toning, and cannot be taught to adapt himself to the treatment required by chloride emulsion. This is mostly the case with the professional printer, less so with the amateur.

The ways contracted with albumen printing and toning must, however, be entirely put aside.

Careful printing to the proper depth being presupposed, there will be much less waste in printing and toning with chloride emulsion than in most other processes. Every print that goes into the toning bath must be watched.

For the preliminary baths the prints must be turned over two or three times, and freed from *air bubbles*, which if not removed would produce spots in the finished prints.

More than three or four prints should not go into the toning bath together; the same applies in regard to fixing. It may also be mentioned that it is advisable to lay the prints face upwards in fixing, while in the alum bath they should be laid face downwards.

The tone to which the prints may be brought will be a matter of individual taste and fancy, the range of tone obtainable being quite on a par with every possible notion of brown, purple, or black; the latter, even when carried to the utmost, always leaving the finished print with a certain warmth of tone which makes the charm of a photographic print, but which of late some would-be artists seem to depreciate by leaning towards the notion that to be "artistic" a photograph has to be in absolute black and white, something in the way of an imitation of an engraving, which, of course, is "art," and this characteristic is to give the photograph that secret touch of "art" which most likely it would not otherwise possess.

When the desired tones are obtained, the prints are washed for a minute or two and passed into the fixing bath, from whence they go into the washing, with after aluming and washing again until they leave the water perfectly clear. Special care is recommended for these operations, and it will be well to remind workers that they have to do with gelatine and not with albumen, and special care in handling prints must be recommended.

The toning baths may be kept good for a long time, but should be filtered after use and strengthened up with sulpho-cyanide of ammonia and gold. Amateurs will find it best to make up the necessary quantity of bath which they can approximately exhaust with the toning they have to do, and to make a fresh bath for the next batch of prints.

After-Treatment.—This part of the operations may be applied for effect, and appeals to the taste of the worker as much almost as the taking of the plate or the choice of subject.

After washing, the prints may be simply dried and pasted on a suitable mount, or they may be squeegeed on a polished or a matt plate of glass, vulcanite or specially prepared metal plate. The finest surface is obtained by laying the prints down on sheets of celluloid, which can be had with both polished and matt surfaces. Special mountants can be had, or the prints may be backed with a piece of stout cartridge paper while down on the plate, drying in this case taking at least double the time as without the backing.

A good mountant has been suggested by Mr. Warnerke, consisting of dextrine with some spirits of wine mixed with glycerine.

Objection is often taken to the glossy surface as not being artistic. While not wishing to encourage that particular finish, there can be little objection to it if it is properly done, and the surface is perfectly even, and a good artistic photograph will look none the worse for being under a perfectly even and flat surface. But if it is intended to give a particular lustre to an otherwise bad and inartistic print, it will certainly fail to do so effectually in the eyes of any one gifted with good taste; whether the surface be a matt or a glossy one will not make the print a work of art or the contrary. The artistic merit of a photograph does not lie in the matt or shiny surface, but in the photograph itself; in the delineation and balance of the subject matter, in the lighting, perspective, grouping, and subsequent proper and suitable development of the plate to bring out the desired printing quality of the negative. That may be the case with a glossy as well as with a matt surface, and when beneath a glossy and perfectly even surface an artist's picture is to be seen, it may enhance the depth of its shadows and bring increased sparkle into the charming detail of its high lights. The remark has been made that Obernetter paper is not artistic. No, it is not, and never will be, but it will lend itself to artistic picture-making if the printer or operator has artistic feeling and taste; that is where the art must be—not in his paper, plates, or lenses. There may be even much art and science in designing them and bringing them to great technical perfection, but they do not help much to produce an artistic picture unless put into hands backed by a mind endowed with artistic feeling and taste. Art is in finding the best subject from amongst a crowd of indifferent ones, in taking it under suitable conditions of light and perspective, and at the right moment, in the proper exposure, followed by suitable development, choosing the right printing material, and carrying out not only the technical manipulations properly, but with the object in view of reproducing as much as possible all the charm that nature had bestowed on the original; in our case (at least for the present) that of colours excepted.

Another mode of finishing is to give a matt surface. For this purpose either a matt-drying paper may be used or the finished print may be squeegeed on to finely ground glass, or ground celluloid sheets, which are obtainable for the purpose. The precaution of taking the plates is necessary to insure them coming off safely. In case celluloid is used it may be of less importance, but one thing must be remembered, that spirits of wine and celluloid have a great affinity, and in case celluloid sheets are used the prints should *not* be passed through methylated alcohol.

All these finishing operations should be performed with great care, and the different modes of treatment chosen not indiscriminately but according to the nature of the subject, tone, or character of the picture.

Another variety of toning is that with platinum. The salt required is the potassium chloro-platinate, of which 1 gramme is dissolved in 20 c.c.m. water, or, say, 25 grains in 1 oz. of water.

Neutral oxalate of potass.	90 grammes.
Phosphate of potass.	45 „
Distilled water	1 litre.

The toning bath is made up of two parts of the potassium solution, two parts of distilled water, and one part of the platinum solution.

The bath will keep about one hour, and after toning for 30 to 40 minutes strengthen the bath with platinum, and continue toning.

Printing slightly deeper than the finished copies; washing previous to toning through two or three baths of cold water, distilled preferred.

The prints are laid *face upwards* into the toning bath; toning takes about two minutes in summer; in winter three to four minutes. The prints are toned until they look violet by transmitted light. As soon as the desired tone is obtained, the prints are put into a washing trough, best a syphon, where the water is continually renewed. Careful and thorough washing is necessary, as the pureness of the whites greatly depends on it. Fixing some time after washing in hypo, and another wash finish the operation.

Laying down on ground-glass for matt or celluloid surface will give a fine effect to the finished print; the final tone is a beautiful sepia brown. There may be other varieties of this toning bath; time and experience will no doubt find out the best.

Thus printing in gelatino-chloride offers the greatest possible variety of tone and finish, and appeals more than any other mode of printing to the artistic taste of the printer and toner, and the results will be beautiful and artistic or not, according to the treatment and care bestowed upon the material put into his hand.

Permanency.—Doubts have at times existed as to the permanent character of the image in chloride. Experiments have, however, been made that gave the question a perfectly satisfactory solution. As to permanency against the action of light, it is absolute, and experiments have proved that the image is a perfectly safe one, and the whites will keep perfectly pure, provided that washing has been attended to properly. As to the action of injurious gases, gelatino-chloride is safer from them than any other preparation in which silver in any form is employed; and the fact that the final image consists practically of gold chloride, more than is the case in any other process, is another point in its favour as to resistance against deleterious gases.*

We have, in fact, in the gelatino-citro-chloride, a printing process that has a great future before it, and fulfils almost every demand that can be reasonably made upon a sensitive printing material.

MR. J. C. ROBSON, of 37, Leventhorpe Road, Middlesbrough, has fitted up a dark-room, and will be pleased to place it at the disposal of photographers.

MESSES. F. E. BECKER & Co., of Hatton Wall, Hatton Garden, have just issued a new catalogue of a most comprehensive character, which shows that they are in a position to supply apparatus of every kind and good quality for ordinary photographic purposes, enlarging, photo-micrography, etc.

THE SOUTH ADELAIDE AM: PHOT: SOC: held its monthly meeting at the Chamber of Manufactures on the 10th of April, Mr. S. J. Dailey being in the chair. There was a fair attendance of members, and after the general business of the evening had been transacted some very fine stereoscopic views, taken by Mr. F. Krichauff while on a tour through Tasmania, were handed round for inspection. During the Easter holidays Messrs. G. Stace and R. B. Adamson, members of the above Society, took a trip to Clarendon, camping out for two days, during which time they obtained some very fine views along the Onkaparinga River.

* Resulting from experiments made by Mr. Lyonel Clark and others.

The Photographic Survey of Warwickshire.

A MEETING of those interested in the Warwickshire Survey was held at St. Edmund's College, Birmingham, on Thursday, May 22nd, the Mayor of Sutton Coldfield, J. B. Stone, J.P., F.G.S., F.L.S., etc., being in the chair. There was a numerous attendance of the members of the Birmingham Photographic Society, together with representatives from the Vesey Club, the Municipal School of Art, the Coventry Photographic Society (Mr. F. W. Dew), the Philosophical Society, etc. Letters of apology were read from Mr. Sam Timmins (the historian of Warwickshire), Richard Tangye, Surgeon-General Ranking (President, Leamington Photographic Society), H. W. Jones, F.C.S. (Vice-President, Coventry Photographic Society), A. E. Donkin (Rugby School), H. R. Lloyd (Birmingham Archaeological Society), Professor Poynting (Mason Lodge), and many others, all giving their approval to the Survey, and promising to help in the work.

Mr. Stone said that the object of the meeting was to organise a County Survey Council which should take charge of, organise, and carry out a survey of every object of public interest in the county of Warwickshire. The survey would include photographs of buildings, ancient and modern, of ancient manuscripts, of paintings, of objects of geological and botanical interest—it would, in fact, form a record which would enable future generations to have some idea of the state of the county as it existed in the latter part of the nineteenth century. He referred to a letter which had been received from the Secretary of the Birkenhead Photographic Association claiming originality for the idea of making a photographic survey. There could be no originality in the idea, for it had been carried out—after a fashion—many times. He had himself made what he supposed the Birkenhead Society would call a photographic survey, by photographing all the old buildings in the hundred of Hemlingford, quite a quarter of a century ago. But the survey which Mr. Jerome Harrison had proposed, and which they were prepared to carry out, was something of an altogether different nature. He proposed “That a County Photo-Survey Council be created for the purpose of organising a complete photographic survey of Warwickshire; such Council to consist of elected representatives from the various photographic societies in the county, in the proportion of five per cent. of the members of each society, together with two representatives from each of the scientific, literary, and artistic societies in the county; that the Council shall have power to elect co-optative members, and shall appoint public trustees for taking charge of the records obtained.”

The motion was seconded by Mr. W. Jerome Harrison, F.G.S., who said that he heartily welcomed the presence on the survey of the scientific and artistic workers whom he saw present. They could lend great aid in drawing up bits of noteworthy objects—each in their respective line—to be photographed. He trusted that Mr. Bagnall, whose “Flora of Warwickshire” was on the eve of publication, would at once supply them, for example, with a list of famous trees within the county. Mr. Jethro Cossins, the eminent architect, had promised help with the churches. It would be part of their first work to obtain information as to the thousands of valuable negatives which were already in existence.

Mr. W. Buncher (School of Art) hoped the Council would take into early consideration the question of publication of a selection of the results obtained. He thought that a thousand subscribers to such a work could be obtained with ease.

Mr. F. W. Dew (Coventry) promised hearty co-operation in the work, and alluded to the great alterations which had been made within the last few years in the churches of Coventry. He had many valuable negatives of those churches before their restoration.

Messrs. Thomason, J. Udall, F.G.S., J. Landon, F.G.S., C. H. Marston, Cottrell, S. G. Mason, Jethro Cossins, B. Karleese, and others also took part in the discussion.

The motion was carried unanimously and with enthusiasm.

The Chairman proposed, Mr. S. G. Mason seconded, and it was carried unanimously, “That the first co-optative members should be appointed at that meeting; that they should retire at the end of the current year, when the Council shall proceed to elect other members to fill the vacancies, the retiring members to be eligible for re-election.” A number of names of eminent

persons residing in the county were mentioned, and Mr. Stone undertook to communicate with them.

The last resolution, which was put from the chair, seconded by Mr. Jethro Cossins, and carried unanimously, was "That the photographic and other societies of the county be requested to at once elect their representatives, and that the first meeting of the new Council be called for June 12th."

The meeting, which had been an extremely encouraging and even enthusiastic one, then broke up, after passing a hearty vote of thanks to Alderman Stone for his able conduct in the chair.

Science Notes.

THE *Graphic* last week contained eight capital illustrations of "Episodes in the Training of Stokers," which were from photographs by Lieut. D. H. Drake Brockman. The fact is that officers in either of the services are beginning to find the camera an indispensable tool.

In the same number our contributor, Major J. F. Nott, is well represented by two engravings from what must be admirable photographs of the new Gordon statue at Chatham, and of the sculptor (Mr. Onslow Ford) at work in the Zoological Gardens, for his model of the camel on which the hero is seated.

In *Knowledge* for May there is a photographic reproduction of a negative of the moon (showing our satellite five inches in diameter) taken some months ago with the great 36 inch lens of the Lick telescope in California. Mr. Ranyard gives some interesting notes on lunar markings as shown by this and other photographs.

"Jack of All Trades," in the *English Mechanic*, gives the following instructions to painters of lantern slides who wish to keep their slides free from dust: "Your room must be kept very clean, and your clothes should be such as brown holland, well starched and got up, floor well swept and sprinkled with water, and all precautions taken to prevent dust; a portable shade for your work, covered top and three sides with fine glazed calico or tracing-cloth, high enough for you to work under, with fall to let down when left."

Mr. L. Sambon has obtained some excellent white-plate negatives of the volcanic phenomena now occurring on the island of Vulcano (one of the Lipari Isles, near Sicily).

Dr. Johnston-Lavis, writing in last week's *Nature*, says that comparing these photographs with those taken by himself six months earlier, but little change is visible.

Photographers generally were much pleased to see the name of Mr. H. Trueman Wood (Secretary of the Society of Arts) included with those who received knighthood among the Birthday honours. Sir Trueman Wood has done much for photography, and is himself an expert in the art.

Admiral Mouchez, at the meeting of the Paris Academy of Sciences of May 12th, presented a note on some new photographs of the moon obtained by the Brothers Henry at the Paris Observatory. The instrument used was the new equatorial refracting telescope with a $12\frac{1}{2}$ inch objective. These photographs are said to be far superior to those obtained in England and in the United States with far larger instruments, the superiority of the results being attributed not only to the perfection of the lens employed, but also to the method of direct enlargement.

At the Royal Society Conversazione, held on May 14th, Mr. E. Bidwell exhibited two photographs of each of fifty-three eggs of the great auk, a bird which became extinct about sixty years ago. Only sixty-seven of its eggs are known to be in existence, and these are worth £200 apiece.

Professor Marshall Ward exhibited a selection of transparencies showing (1) the habits of trees from various parts of the world; (2) the comparative structure and anatomy of several European timbers; and (3) some of the more prominent features of the diseases of wood, and of the fungi causing them.

Mr. W. B. Croft exhibited two sheets of glass, between which some paper printed on one side only had lain for ten hours; the print appeared in white on each sheet of glass. This resembles the phenomena noticed by Moser in 1840.

Mr. H. C. Sorby, F.R.S., had a remarkable collection of small jelly-fishes and other invertebrate animals prepared as lantern slides. The success of the method depends on the fact that when soft-bodied animals are dried on glass the extreme edge dries first, and adheres firmly, so that on further drying the animal

does not contract irregularly, but becomes thin and flat, and shows like a drawing on the glass. The specimen slides exhibited not only the general form, but much of the anatomy of the creatures.

The lady whom Mr. Stanley is to marry—Miss Dorothy Tennant—is the sister of Mrs. Eveleen Myers, who has earned some distinction as a photographer.

A branch of the Brins Oxygen Company is shortly to be opened at Saltley, the northern suburb of Birmingham, where oxygen gas will be both made and compressed. There is an extensive opening for the use of oxygen in the metropolis of the midlands, as so many of the trades carried on involve brazing, hard soldering, etc., in which the use of an intensely hot flame (such as can be obtained with the oxy-hydrogen blowpipe) is a great advantage.

The steel tubes in which compressed oxygen is stored will probably be largely made in future by the wonderful new Mannesmann process, in which a solid bar of metal is placed between a couple of rapidly revolving conical steel rolls, and is "spun" instantly into a tube of great strength.

The *Journal of the Asiatic Society of Bengal* for 1889 contains valuable tables of metric weights and measures, prepared by Colonel J. Waterhouse for the use of the photographic and lithographic offices of the survey of India.

The *Alpine Journal* for May thus alludes to the influence of the Naturalistic School on the "Mountain Pictures of the Season:" "We have produced a certain number of artists who year after year lived for several months together in the Alps. They were the companions of climbers—were often climbers themselves. They looked at mountains as things to be climbed. Their ideal was accuracy of form and truth of detail in foreground and distance. Now, however, a new ideal begins to reign, and a new art results from it. Artists are paying much more attention to atmospheric effects than ever before. They are painting the atmosphere, with figures, houses, trees, mountains, or what not for background. Details thus shrink into insignificance. Apparent inaccuracy of detail seems to obtain. Much of what we used to like is thus lost, but certain new qualities of size are now attainable, and by some artists are attained. Not impossibly, artists of the new school may devote themselves to mountain landscape. Some known Alpine artists show signs of looking at the old scenes with new eyes. The old art is at any rate passing out of fashion and ceasing from the walls of our exhibitions. Alpine landscape will either no longer be painted or it will be painted on new principles. We await the development of the next few years with interest, and not without hope." This seems to us a very fair critique.

F. G. S.

Our Contemporaries at Home and Abroad.

L'Amateur Photographe (Paris) gives the following method of development: "The exposed plate is plunged in a dish containing a solution of pyrogallie acid; then, when the gelatine is thoroughly penetrated by the solution, it is exposed above a dish containing ammonia. The appearance of the image is more or less rapid, in proportion to its nearness to the ammonia. This method can be used when it is desired to force the development of a part of the plate, and the pyro solution lasts longer, as it is not mixed with an alkali."

The *Photographic Times* (New York) says: "There is a general tendency of all vegetable fibre to stretch; and although paper manufacturers have tried to reduce this tendency to a minimum, they have not succeeded in doing away with it entirely. It will expand somewhat, whether we use it without coating, in the plain form, or when albumenised. Heavily albumenised paper, under certain conditions, is more likely to expand than paper prepared with a diluted solution of albumen. Permanent bromide and chloride of silver gelatine emulsion paper does the same, while collodion aristotype paper perhaps less than any. The reason for this is obvious, and it is probable that the curling up of collodion coated paper in water is owing to the same fact. The collodion coat being opposed to the expanding of the supporting paper forces it inwardly. It is true that when unmounted albumen prints are dried, they nearly return to the original dimension, but as all our practical mountants are in aqueous

solution, and the prints become thoroughly wetted by brushing the paste over them, they expand, and when transferred and dried upon the mount, will remain so. A young amateur recently stated that prints soaked in glycerine, alcohol, and water, for the purpose of keeping them flat and unmounted, show considerably less tendency to stretch than those without this preliminary preparation." Articles: "The Origins and Progresses of Photo-Engraving," "Naturalistic Photography," "Rules and Effects of Lighting," "Platinotype Possibilities," etc.

Holiday Resorts and Photographic Haunts.

NOTES OF A PHOTOGRAPHIC TOUR FROM PERTH TO BRAEMAR,

By Dunkeld, Blairgowrie, and Bridge of Cally, returning to Perth or Dundee by Ballater, Aberdeen, and Arbroath.

By ROBERT MURRAY.

THE route I have indicated makes a delightful round with the camera, and should be allowed not less than ten days. I prefer the early summer for my Scotch excursions, as accommodation is then more readily found at the hotels, most of which adopt a lower scale of charges at that time of the year, and you have, of course, longer light to work with than in the autumn. Again, the weather in the Highlands is generally finer and dryer in May and June than later. When I go on these expeditions I mean business, and confess to a selfish preference for taking the camera as my only companion—my *second wife*, as my better-half is fond of telling me!

Leaving Perth, then, on a Monday morning in June, I take the train to Dunkeld (where I had photographed before), and thence by coach to Blairgowrie. The drive, of some fifteen miles, is a very enjoyable one, through a country rich in wood and water. I arrive in good time to walk or drive to Craighall (General Clerk-Rattray), which is one of the most romantically situated houses in Great Britain. It is built upon the very edge of a precipitous rock, 220 feet above the bed of the river Ercht, into which you may drop a pebble from the drawing-room window. By leaving your card at the house you get permission to descend by a private path to the level of the river, where you find a splendid view of the house itself, perched upon its "craig" and surrounded by finely wooded rocks, with the river in the foreground. (Afternoon sun.)

Returning to Blairgowrie, I engaged a dog-cart to take me on to Braemar the following day.

Tuesday.—This is a drive of about thirty-five miles through a land of "mountain and flood, brown heath and shaggy wood," the road being so hilly that about seven hours is the average time allowed. A halt is made at Bridge of Cally for man and horse to refresh, and here the old and new bridges over the Black Adder, etc., are fine subjects for the camera. Braemar was reached too late to do any photographing that day, so we put up at the "Fife Arms," and take a stroll to reconnoitre.

Wednesday.—At Braemar. We are now in a veritable photographer's paradise, having half-a-dozen first-class views within five minutes' walk of the hotel, and many more within a reasonable distance. From the banks of the small river Cluny, which flows through Braemar, we have a fine view of the bridge with the picturesque hotel behind. From the bridge itself there are two splendid views of the river, with old mills and trees in the foreground and hills beyond, other fine bits opening out as we ascend or descend the Cluny. The old castle of Mar is within half a mile, and must, of course, be taken. This will be enough work for one day.

Thursday.—The second day at Braemar may be profitably spent by a drive to the Linn of Dee, where the river rushes through a narrow chasm, and there is a bridge, and old Scotch firs, and large boulders tumbled about.

Friday.—The third day at Braemar should be devoted to the old bridge of Dee and the scenery down the river, returning by the small river Garrawalt, and the splendid woods of Ballochbui, on the Balmoral estate.

Braemar itself is a most interesting place, located high up

amongst the hills, with the Cairngorum range in the immediate neighbourhood; and the bracing quality of the mountain air is such that one can walk astonishing distances—and drink no end of whisky—without feeling any the worse for it!

Saturday.—The morning of the sixth day from Perth found me on the top of the coach for Ballater. The road keeps close to the river Dee all the way, presenting many fine stretches of river scenery, and affording a good view of Balmoral on the opposite bank. As there is not much at Ballater to photograph, I took the train to Banchory on Dee-side, where I arrived in time to get some good views of the extremely picturesque bridge of Fough, which is close at hand.

Sunday.—Staying over the Sunday at Banchory, from which some delightful walks may be taken—

Monday.—I took the train on Monday morning to Crathes station, near which is the fine old castle of Crathes (Sir Robert Burnett). Here I took several views, and then went on by an afternoon train to Drum station, only a few miles distant, where there is another interesting old castle, called Drum Castle (Mr. Irvine). Both of these castles are inhabited, but their respective owners kindly give permission to gentlemen (or ladies) wishing to photograph the exterior. I then continued my journey to Aberdeen, taking up my quarters at the British Hotel.

Tuesday.—This day was devoted to the cathedral of St. Machar, and the curious old College buildings of Old Aberdeen, which is about a mile from the modern granite city. Here also is the old Brig-o-Balgony over the river Don, which makes a good picture.

Wednesday.—Having heard much of the coast scenery of North-East Aberdeenshire, I took the train this morning to Peterhead, and drove thence, about six miles, to the Bulters of Buchan. Here is seen a stretch of coast unequalled in Great Britain for the rugged grandeur of the granite rocks, amongst which the sea is perpetually seething and "spouting" with a deafening roar. "Bulters" means locally the "Boilers" of Buchan.

Thursday.—From Peterhead back to Aberdeen, and thence to Glamis and Arbroath on the way south. At Glamis is the famous old castle of Glamis (the Earl of Strathmore), and at Arbroath or Aberbrothick, the ruined abbey; both well worth photographing.

* * * *

KELSO AND DISTRICT.

By J. ROSS CORMACK.

At this time, when amateurs are packing apparatus and consulting guide-books for fresh fields to conquer (photographically), a few words about Kelso, which the writer considers one of the most delightful head-quarters in Scotland, may not be amiss.

Kelso is fifty-two miles distant from Edinburgh, but the tourist from the South may reach it either from Berwick (twenty-four miles), by a direct branch line, or from Carlisle to St. Boswells, where he changes for Kelso.

The town is ten minutes' walk from the station, but the principal hotels have 'busses which meet the trains. In Kelso itself one of the best photographic views is the bridge, with the Abbey on the right, and the town in the background. This makes a splendid photograph, and should be taken before noon. The tourist had best keep his eye on the cows which graze by the river, as, not being used to photographers, they have a tendency to charge the camera, which, to put it mildly, is not altogether convenient. If, however, they take it into their bovine heads to group themselves, they make a charming addition to the picture. Then there is the ruin of the once powerful Abbey, which before the Reformation owned nearly all the country round, and had possessions as far north as Aberdeen. Its history may be obtained from any of the guide-books. The style of the architecture is a mixture of Norman and Gothic; and, like all the abbeys in the district, was founded by King David. One or two good views of it can be got from the parish churchyard early in the morning: the other sides require a wide-angle rectilinear lens to take them properly. Indeed, a lens of this type is almost necessary for the district.

Floors Castle, the seat of the Duke of Roxburghe, is close at hand, and directly opposite it, is Roxburgh Castle. Only a few stones remain of what was in the olden days a powerful border stronghold and royal residence. James II. was killed by the bursting of one of his cannon, while besieging it. About two

miles from Kelso, on the river Eden, are the Falls of Stithill, which make a pretty picture. Ednam village is another walk of about two miles, and in a large white house near the bridge the Rev. F. H. Lyte, author of "Abide with me, fast falls the even-tide," was born.

On the Teviot and other rivers many pretty views of river scenery may be obtained.

But the tourist staying at Kelso can scour all the country round, and return each day with rich spoils in his slides. Jedburgh, the ancient border town, is only ten miles by rail, and the stately Abbey affords many negatives, notably one or two from the bed of the river. Some of the bridges on this river (the Jed) make lovely photographs.

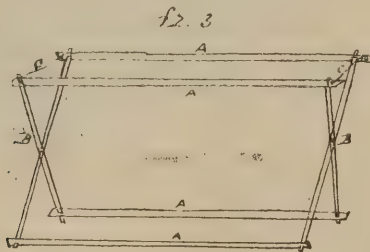
Ten miles, too, from Kelso is St. Boswells, and a pleasant walk of about two miles takes one to peaceful Dryburgh Abbey, where Sir Walter Scott is buried. Then again, a trip of sixteen miles in the same direction lands one at Melrose, whose Abbey is, in my opinion, the queen of them all. Abbotsford, where Scott lived, is three or four miles from Melrose. But it would take too long to tell of all the excursions in the neighbourhood, and I must only mention Telholm, once the camp of the Scottish Gypsies. Smailholm Tower, Norham Castle, and Twizel Castle.

There is free trout angling on the Tweed, Teviot, Eden, and many other streams, and the roads are in a good condition for cycling.

Apparatus.

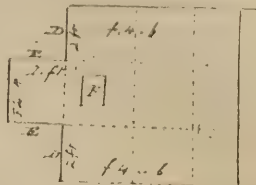
HOME-MADE DARK-TENT FOR CHANGING OR DEVELOPING.

EIGHT laths 2 ft. 3 ins. by 1 in. by $\frac{1}{4}$ in. In four of these (A), $\frac{1}{8}$ in. from each end, cut $\frac{1}{4}$ in. square holes. With the other four make two X's (B), by rivetting them (two copper rivets, 1d.) a little above the centre, so that the lower ends open a little wider than the upper. Cut the ends of these X's thus:  to fit tight into the square holes in pieces A. Join two pieces A together by string 14 ins. long (C). Using these two as your top, fit them on to the tops of your end pieces B, and fit the other two A on to the bottom of B. Allow the ends of B



to project $\frac{1}{4}$ in. through A; they will prevent your cover slipping about.

Make your cover of one thickness of black twill, lined with one thickness of yellow sateen. Cut out both pieces as in illustration. Sew along the edges and across the dotted lines, to keep the two pieces well together. At F let in a square of ruby medium, to give light when working either by daylight or in a gas-lighted room. Sew D and E together. Your cover is now complete. Throw it over your frame, E-E being the back end; tuck in the spare under the feet of the frame, across the back,



and round the sides. Having placed your frame on a table or chest of drawers, a few inches from the edge, put head and shoulders inside, and draw the open end of the cover over you;

pick up the right hand loose corner, and, drawing it under your arm, cross it in front towards the left, and tuck it over and under the front lath A; ditto with the left corner. With a very little care you can exclude all light. In this I have changed and developed dozens of plates without mischance, using (when necessary) a shilling triangular lamp with a pyramid night-light, three dishes (omitting the alum), and a dark box. Don't forget a good piece of waterproof for the base. In drawing yourself out of the cover, place a hand on the top front frame to prevent pulling it over. The whole thing will roll up into 2 ft. 3 ins. by 3 ins.

Notes from the Liverpool Centre.

(By our District Editor.)

THE exceptionally bright and genial weather which has favoured the holidays has had the effect of keeping the attendance at societies' meetings, demonstrations, etc., rather thin. So far as I can gather, a large number of members, representing the bulk of societies here, are "out of town, operating." On Saturday there was a considerable exodus from Liverpool; the Lake District, North and South Wales, Ireland, Scotland, the Isle of Man, Norway, and the Continent being the places of destination. For the most part the "jaunters" went away in pairs and small parties.

The Liverpool Association hold their fifth ordinary meeting of the present session this week! Half a dozen gentlemen are, I hear, to be elected to membership. Mr. Wm. Tomkinson will report on the Burton excursion; Messrs. J. W. Turner and Co.'s patent Simplissimus hand-camera will be exhibited and explained, and Mr. J. MacDonald Bell will show Fallowfield's Facile camera and other novelties. The event of the night, however, will be the exhibition of the New Boston (U.S.A.) slides, particulars of which I gave last week. At the fortnightly practical demonstration on Wednesday, Mr. Paul Lange gave "Printing and Toning in Platinotype." The Liverpool exhibits from the Crystal Palace and Newcastle Exhibitions are now hung in the Society's rooms, where they are generally accepted as representative of Liverpool amateur work.

There is likely to be a big turn-out at the Birkenhead Society's annual out-door competition at Bidston next Saturday. Members of other societies are invited.

Mr. C. W. Reader, Honorary Secretary of the Boston Return Set, would be glad to get this matter completed. Gentlemen who have negatives and prints of Liverpool and district will do much towards helping the work if they will be good enough to signify their intention of contributing.

Societies' Meetings.

NOTE.—In this column the Editor can, of necessity, only give a brief summary of the proceedings. The PHOTOGRAPHIC SOCIETIES' REPORTER was established to report the transactions of Societies, and the Editor will be glad to receive reports for insertion as early as possible after the meetings have been held, and at the latest before the 24th of each month.

CAMERA CLUB.—On Thursday, May 22nd, Mr. E. R. Shipton read a paper entitled "Cycle Photography; some Recent Developments, including an Ideal Cycle." Sir George R. Prescott occupied the chair. Previous to the address, the Hon. Secretary handed round a Watkin's exposure meter, a compact instrument devised to indicate exposure to be given under varying circumstances, also one of Messrs. Fallowfield's "Perfect Sheaths" (Miall's patent) for holding plates. Sir George Prescott exhibited one of Lawrence's hand-cameras, a new introduction, in which by a simple movement the plates are brought into position and removed. Mr. Shipton commenced his address by summarising his previous lecture on the subject of the "Wheel and Camera," pointing out the use of the cycle in this connection for bringing the photographer into contact more easily with beautiful scenery. He then proceeded to describe his own cycle specially devised for photographers' work. This included some ingenious and effective carriers, upon which he had carried a hundred weight of luggage safely; also a spring frame, and particularly the new

pneumatic tire, by which, as Mr. Shipton expressed it, the rider carried his own road with him and laid it as he proceeded. These tires, he considered, in addition to the luxury of smooth going, added speed to the extent of two miles per hour.

FAVERSHAM INSTITUTE PHOT. SOC.—The inaugural meeting of this society was held at the Faversham Institute on the 20th inst., Dr. C. J. Evers in the chair. Mr. Charles Hussey read a paper entitled "Photography, Technical and Artistic." Mr. Hussey is an amateur photographer of considerable experience, and evinced a thorough knowledge of his subject. Dividing his essay under the three heads of (1) topographical photography, (2) artistic photography, and (3) scientific photography, Mr. Hussey dwelt in detail on the importance of technique—technical photography—and explained how a large camera, though very nice for an artist's purposes, is by no means a necessity to the ordinary topographical photographer, who wishes to take views of scenery during a ramble or a holiday, as the small cameras are much more portable and compact, and from good quarter-plate negatives excellent enlargements can be made. He (the speaker) preferred for ordinary use a $3\frac{1}{4}$ by $3\frac{1}{4}$, and this camera he produced, and it certainly was a wonderfully compact little apparatus—a veritable pocket camera. Mr. Hussey concluded his address with some useful general hints for beginners. A hearty vote of thanks was accorded to Mr. Hussey for his kindness in coming and giving his able address. A collection of excellent enlargements, kindly lent for exhibition by the Editor of the AMATEUR PHOTOGRAPHER, were on view, and proved highly attractive and instructive.

HACKNEY PHOT. SOC.—The ordinary meeting was held on the 22nd inst., Mr. Roland Smith presiding. Mr. Wall sent a very interesting paper on "The Chemistry of Photography." He purposed making it quite elementary, as many only took up photography for the sake of pictures, and not from any theoretical motives. He gave an interesting account of plate manufacturing and chemicals used in it, also chemicals used in all the other processes. At the close of the paper a discussion ensued. Mr. Bruce Capel was elected a member. The excursions will commence on June 4th to Loughton, and on the 7th to Wanstead Park.

HOLBORN CAMERA CLUB.—The usual monthly lantern night was held on Friday, the 23rd inst., when about 200 slides, by Messrs. Dear, Plumbridge, Baker, Chang, and Bayston, comprising views in York, Sheffield, Burnham, Epping, Hampstead, Fort Grain, Ballyclough, etc., were shown to an appreciative audience of members and friends. Next Friday members are requested to bring up results of work done during the Whitsuntide holidays for comparison.

SHEFFIELD AND DISTRICT LANTERN SOCIETY.—A well-attended meeting of the above society was held on the 21st inst., the President, Dr. Manton, being in the chair. Specimens of hand-cameras were exhibited. The President exhibited specimens of negatives developed by a process which he has recently patented; other members also exhibited specimens of work. An animated discussion followed. An excursion up the Rivelin Valley will take place on Saturday, the 31st inst.

Mr. E. G. PLATT, who has been very justly called the "amateurs' friend," has removed from Alvington Crescent, Kingsland, to Birbeck Works, Birbeck Road, Ridley Road, Kingsland, N.E. Mr. Platt manufactures all brass fittings for cameras, lenses, finders, view meters, etc., as well as bellows for cameras, etc. He has also a dark-room for the use of photographers. His new premises are well worth a visit.

OURSELVES.—A correspondent from Assam writes, "I look forward anxiously each week for the AMATEUR PHOTOGRAPHER, and wish to tender you my best thanks for having supplied such an excellent paper, especially to such as myself, who are unable to get any instruction in photography otherwise than from books."

THE PHENIX PLATES, the new brand of cheap plates which have just been put on the market by the Paget Plate Company, are excellent. They are carefully coated, good density is readily obtained, and they are sufficiently rapid for ordinary snap shots in the hand-camera. We can recommend them for the production of good all-round work,

Register of Dark-Rooms, 1890.

THE following "Dark-Rooms" have been placed at our disposal.

We class them in four divisions, *i.e.*, a amateur, d dealer or professional, h hotel, and s photographic society.

In our letter of introduction full particulars are given as to owner, address, charges (if any); plates, chemicals, etc., kept by dealers; terms for temporary membership of societies; hotels; distance from station, etc., etc.

Every application for letter of introduction must be accompanied by SIX PENNY STAMPS. The owner of "Dark-Room" will be advised by same post as the applicant. The envelopes should bear the endorsement DARK-ROOMS.

d Aberdeen	a Chesterfield	a Galashiels, N.B.
d Aberystwith	a Chipping Sod-	h Giant's Causeway
d Addingham	bury	Ireland
d Amble	a Cinderford	d Glasgow
d Andover	d Cirencester	d Glasgow
a Aylesbury	h Cirencester	d Glasgow
	d Clacton-on-Sea	s Glasgow
d Barmouth	s Cleckheaton	d Gloucester
a Barnsley	d Clevedon	d Gorleston
d Bath	d Clifton	a Goring
s Bath	a Clitheroe	a Gravesend
h Beaconsfield	d Colchester	d Great Yarmouth
a Bedford	d Colchester	
d Belfast	h Colnbrook	a Halifax
s Belfast	d Colwyn Bay	d Handsworth
d Bergen, Norway	a Coniston	a Hanley
d Berlin, Germany	d Crewe	d Hanley
h Bex, Switzerland	s Crewe	d Harrogate
d Bexhill-on-Sea	d Crewkerne	d Hastings
d Birchington-on-	d Croydon	h Hastings
Sea		s Havant
a Birmingham	a Dalton-in-Fur-	d Hereford
d Birmingham	ness	d Herne Bay
d Birmingham	d Darlington	d Hexham
s Birmingham	d Darlington	h Holbeach
d Blackburn, Lancs.	h Dartmouth	d Huddersfield
h Bodiam	d Derby	a Hull
d Bodmin	a Devizes	d Hull
h Bonar Bridge	h Dingwall, N.B.	d Hull
h Boro' Bridge	a Doncaster	
d Bournemouth	d Douglas, Isle of	d Ilfracombe
d Bournemouth	Man	d Ipswich
d Bradford	a Douglas, Isle of	s Ipswich
d Bradford	Man	
d Bradford	d Dover	d Jarrow
d Bramley, near	d Dublin	d Jersey
Leeds	d Dublin	
h Brechin, N.B.	d Dublin	d Keighley
d Brechin, N.B.	h Dunblane, N.B.	d Keighley
d Bridlington Quay	d Dundee	s Keighley
d Bridlington Quay	s Dundee	s Kendal
h Brigg	a Dungarvan	a Kimberley
d Brighton, Hove	a Duns	d King's Lynn
h Brighton	d Durham	d Kingsland, N.E.
d Brighton		a Kingstown,
d Bristol		Dublin
d Bristol	h East Grinstead	
d Bristol	h Ebbw Vale	d Lancaster
h Broadway,	d Edinburgh	d Lancaster
Worcester	d Edinburgh	d Lancaster
d Bromley	d Edinburgh	d Larne
h Brough	d Edinburgh	d Leamington
s Burnley	s Egrement	h Ledbury
d Burslem	a Enfield Town	d Leeds
	a Evesham	d Leeds
a Cadiz, Spain	d Evesham	d Leeds
h Callender, N.B.	d Exeter	d Leicester
h Camborne		d Leicester
d Cambridge	s Falkirk	d Leicester
h Cambridge	d Falmouth	a Leicester
h Capel-Curig, N.W	d Faversham	a Leicester
a Chalfont St.	d Felixstowe	a Lenzie, N.B.
Peter	d Finchley	d Leytonstone, Es-
d Cheltenham	h Fochabers, N.B.	sex
d Cheltenham	d Folkestone	d Lincoln
d Chepstow	a Four Ashes, near	d Liverpool
d Chester	Enville	d Liverpool
d Chester	a Frodsham	s Liverpool

NOTE.—a amateur; d dealer or professional; h hotel; s society.

d Llandudno	a Madeley, Salop	a Oban	h St. Asaph	d Stockton-on-	d Wakefield
h Llanidloes	d Maidenhead	s Oldham	d St. Bees	Tees	h Warwick
d London, Alders-	d Manchester	a Oxford	a St. Helens	a Stoney Stratford	a Waterford
gate, E.C.	h Mallow		d St. Heliers	a Stourbridge	d Waterford
a London, Blooms-	h Malta	h Paignton	a St. Ives	d Stourbridge	a Wellington,
bury	d Malvern	h Paisley, N.B.	d St. Leonards	d Stratford-on-	Salop
d London, Borough	d Mansfield	d Penrith	h St. Mellons	Avon	s West Hartlepool
S.E.	d Margate	d Penzance	h St. Neots	h Stratford-on-	d Weston-super-
a London, Chelsea	a Mayence	d Pershore	d Sandgate	Avon	Mare
d London, Fen-	h Merthyr Tydfil	a Perth	d Sandown, Isle of	d Stroud	d Weston-super-
church Street,	d Merton	a Poole	Wight	h Sudbury, Suffolk	Mare
E.C.	d Middlesbrough	h Port Erin, Isle of	a Scarborough	d Sunderland	h Wetwang, York
d London, Fleet	d Minehead	Man	a Scarborough	d Swindon	d Weymouth
street, E.C.	h Monmouth	d Preston	d Scarborough		d Whitby
d London, High-	d Montrose, N.B.	h Prince's Risboro'	d Scarborough	d Taunton	d Whitby
gate	d Mountsorrel		a Shaftesbury	a Tavistock	d Wimbledon
London, London	a Mumbles, near	d Reading	d Shanklin, Isle of	a Thornton Dale,	h Windsor
Bridge	Swansea	h Redcar	Wight	nr. Pickering	d Windsor and
d London, New		h Redditch	a Sheffield	h Thorpe	Eton
Cross	d Newark	d Rhayader	d Sheffield	h Tintern Abbey	d Wisbech
d London, Wal-	h Newbury	d Richmond, Surrey	d Sheffield	d Torquay	a Wolverhampton
worth Road,	d Newcastle-on-	a Ringwood, Hants	d Shepton Mallet	d Torquay	a Worcester
S.E.	Tyne	d Rochdale	d Shrewsbury	d Torquay	h Worthing
a Long Eaton	d Newcastle-on-	d Rodley, near	h Shrewsbury	h Tring	d Worthing
h Long Melford	Tyne	d Leeds	h Sleaford	d Tunbridge Wells	
d Loughborough	d Newport (Mon.)	a Romford	h Southampton		
a Louth	a Niton, Isle of	d Royston	h Southend-on-Sea		
a Ludlow	Wight	d Ryde, Isle of	a Southport	s Uttoxeter	a Yarm
d Lynn	d Norwich	Wight	d Southsea	a Vienna	d York
a Lythe, Whitby	d Nottingham	h Ryde	s Southsea	h Wadebridge	d York
	d Nottingham		a Stamford		d Youghal
h Macroom, N.B.	d Northallerton	a St. Agnes	a Steyning		

To Correspondents.

THE insertion of **QUERIES** and **ANSWERS** is attended with much labour, and it is requested that the questions asked and the answers given shall be short and to the point. No charge is made.

All communications for these columns are to be addressed to **The Editor, "Amateur Photographer," 1, Creed Lane, Ludgate Hill, London, E.C.**

RULES.

1. Write clearly and distinctly on one side of the paper only.
2. Write each Query or Answer on a separate sheet of paper.
3. Write the name and address legibly on the back of each communication, and sign all Queries and Answers with name or *nom de plume*.
4. All matters for these columns **MUST** be received by **TUESDAY MORNING'S POST**.
5. The Editor does not undertake to answer questions by post.
6. In answering Queries, correspondents are requested to mention, in every instance, the *number and full title of the query* referred to.

QUERIES.

3846. **Set, Information Wanted.**—What is the best set to purchase (plain, cheap, good) to take cabinets, and change to take cartes-de-visite? And all information, details—if in a book, the cheapest—for plain work only at present, as I have no opportunity of practical tuition, and will require to learn by myself. Will Mr. H. Leach oblige?—**NED.**

3847. **Plates.**—I would like to know how the Ilford white label half-plates compare with Thomas' extra rapid as to speed?—**GRONO.**

3848. **Exposure.**—How many seconds would be the correct exposure for a Thomas' half-plate with Lancaster's half-plate Instantograph lens at $f/10$, for view of a bridge with diffused sunshine in Lancashire?—**GRONO.**

3849. **Moving Objects.**—Can moving objects be photographed correctly on Thomas' extra rapid plates with the Instantograph lens?—**GRONO.**

3850. **Reducing.**—I should like a reducing solution almost certain in its effect, preferably one which would reduce an over-intensified negative with bichloride of mercury. A formula for the above will oblige.—**SELF-TAUGHT.**

3851. **Intensifier.**—Which is the best way of intensifying, with half-saturated solution of bichloride of mercury and half water or bichloride of mercury quarter of an ounce, and the same quantity of chloride of ammonium, and 10 oz. of water for re-developing?—**SELF-TAUGHT.**

3852. **Hydroquinone.**—I want to make this developer on the 10 per cent. principle, but finding hydroquinone not very soluble in water, should like a little advice, also the maximum quantity of bromide for over-exposure, without spoiling the plate, and the minimum to take an effect, and the same for sodic hydrate, and quantity of water to weaken developer for slow development, Ilford formula; should be very glad if answered number of minims to an ounce?—**SELF-TAUGHT.**

3853. **Stops versus Iris Diaphragms.**—Which is the better for a raw amateur to get when ordering his first set of apparatus—a lens fitted with ordinary stops, or with an Iris diaphragm? What are the advantages and disadvantages of each?—**RAW AMATEUR.**

3854. **Shutter for Hand Camera.**—I have thought of making a hand-camera. Can any reader kindly suggest a useful shutter, one that does not work in the lens-mount, and also how to make a good, cheap finder? Also can anyone tell me a good and reliable way of arranging plates in the camera, and of removing exposed plates and leaving another ready for exposure? I do not want double slides. Will anyone who has had experience with hand-cameras please suggest a reliable instrument?—**INQUISITIVE.**

3855. **Canterbury Cathedral.**—Will some brother amateur kindly let me know whether permission is needed to "take" the interior of Canterbury Cathedral, and if so, to whom I am to apply? Any information as to exposures, etc., would be very acceptable.—**L. WILTSHIRE.**

3856. **Optimus R.R. Lens.**—Will any amateur kindly give me his personal experience of the Optimus rapid rectilinear lens, 5 by 4?—**B. WELLS.**

3857. **Solar Eclipse.**—Can I photograph the sun during the eclipse with a half-plate camera and single view lens, and if so which is the best way it can be done, and are there any other appliances required?—**TYRO.**

3858. **Lancashire and Cheshire.**—As I intend visiting Liverpool, Manchester, Chester, and some parts of the River Dee and vicinity for a few days, should be obliged for a list of buildings, etc., in the towns, and prettiest places in the country, suitable for hand-camera (fixed focus) work.—**J. F.**

3859. **Pinholes.**—Can anyone tell me how to spot out pinholes in a negative, as I want to make lantern-slides from it, and the pin-holes would show up large on the screen?—**J. F.**

3860. **The Lantern from a Window.**—I want to show some pictures out of a window; will any one kindly tell me the best and cheapest lantern to get, and how to fit up the window to show the pictures?—**N. P. L.**

3861. **Focussing Chamber.**—Can any one tell me whether Tylar's focussing chamber is a reliable and useful article? And whether it quite takes the place of a focussing cloth?—**S. R.**

3862. **The Eclipse v. Facile.**—Would some one

give me their opinion of Shew's Eclipse hand-camera? Is it superior to Fallowfield's Facile, new pattern?—**HYPO.**

3863. **Hydroquinone Developer.**—Would some amateur give me the formulae of a two solution hydroquinone developer which would keep some months in stoppered bottles? Have found Ilford formula go bad so soon.—**HYPO.**

3864. **Celle, near Hanover.**—Can anyone kindly inform me if I can procure plates and necessary chemicals for photography at Celle, near Hanover.—**C. B. FOX.**

3865. **Developing Tent.**—Will some reader with personal experience tell me the best portable developing tent. Can one be made or hired for two months' visit to Scotland.—**C. C. W.**

3866. **Aristotype Paper.**—How much gold (chloride) would be required to tone twelve whole-plate Aristotype paper?—**X. D.**

3867. **Isochromatic Plates.**—Will some brother amateur please say if I can develop Edwards' Isochromatic plates with Ilford developer? Will ordinary sensitised paper do for the printing? If not, please say what developer will answer, and what kind of paper, and what kind of toning and fixing bath is used?—**W. N. A.**

3868. **North of Spain.**—I intend spending about a fortnight or three weeks in the North of Spain early in June, making San Sebastian my headquarters, and as I have not been there before, and my knowledge of the language very limited, I should be very grateful for any information or hints which your readers who have been in that part of Spain could give me. Is photographing permitted in the churches and in the towns? Would the time of exposure for Wratten's instantaneous plates be about the same as in England in June?—**ENQUIRER.**

QUERIES UNANSWERED.

- Mar. 7th.—Nos. 3523, 3551, 3554, 3556.
 21st.—Nos. 3585, 3587, 3593, 3595, 3596, 3612, 3614.
 28th.—Nos. 3634, 3636, 3640, 3643, 3653.
 April 4th.—Nos. 3661, 3664, 3674, 3677.
 11th.—No. 3694.
 18th.—Nos. 3708, 3718.
 25th.—Nos. 3727, 3731, 3735, 3736, 3742, 3744, 3747.
 May 2nd.—Nos. 3758, 3767.
 9th.—Nos. 3794, 3795.
 16th.—Nos. 3805, 3809, 3814, 3820, 3822, 3823, 3824, 3829.
 23rd.—Nos. 3827, 3828, 3829, 3834, 3839, 3840, 3841, 3842, 3843, 3845.

ANSWERS.

3813. **Dye for Canvas.**—The canvas you speak of is tanned, not dyed. You cannot prepare it at home, but can buy it ready for use.—**E. J. FIELDEN.**

3837. **Discoloured Prints.**—There is no satisfac-

tory means of restoring discoloured paper. — E. J. FEILDEN.

3638. **Transparent Films**—Are advertised by the Eastman Company.—E. J. FEILDEN.

3641. **Non-Achromatic Lens**—Try Perken, Son, and Rayment, Hatton Garden, E.C.—E. J. FEILDEN.

3703. **South Kensington and British Museums.**

—Yes. Apply to the Director.—E. J. FEILDEN.

3800. **Lens.**—In addition to what I said last week in reply to the numbers on "Vengeance's" stops, I think that most probably the numbers are those of the uniform system of the Photographic Society. These numbers give the number of times exposure the stop requires when compared with $f/4$ as unity. In this case the ratio of focus to aperture would be as follows:— $f/8.85$, $f/10.84$, $f/12.52$, $f/17.7$, $f/25.04$, $f/35.42$; and if the focus is 4 ins. the largest stop would be about four-ninths of an inch in diameter.

—J. G. P. VEREKER.

3802. **Exposure.**—Hinton's, 38, Bedford Street, Strand, W.C., will supply you with Wormald's Tables, price 1s. 6d.—Q.

3812. **Lens.**—Rapid rectilinear, with a focal length about the same as the plate you work with measures diagonally.—Q.

3817. **Developers.**—No; use either caustic potash or soda, 100 grs. to 20 ozs. of water. If washing soda is used, make a 10 per cent. solution, and add to developer as required.—E. J. FEILDEN.

3817. **Developers.**—Hydroquinone needs some preservative, such as sulphite of soda, and works well with carbonate of potash. I can recommend the following:—

Hydroquinone ...	...	...	80 grs.
Sulphite of soda ...	...	...	1 oz.
Citric acid ...	...	...	30 grs.
Bromide of potassium ...	...	...	10 "
Water ...	...	...	to 10 ozs.
Carbonate of potash ...	...	...	1 oz.
Water ...	...	...	to 10 ozs.

Use equal parts of each.

I have not experimented with washing soda.—Q.

3830. **Swansea.**—"Boy Amateur," on coming to Swansea, will find some very pretty views in the Old Park; also in and about Sketty, the old church making a very pretty picture. Some good views can be got at the Mumbles. The best time to take views here is about a couple of hours before sunset. If I am at home, "Boy Amateur" can change his plates in my dark-room.—J. F. WALLIS.

3830. **Swansea.**—H. H. Parly, 99, Mansell Street, keeps Ilford plates.—J. H.

3831. **Vignette.**—Take a piece of cardboard same size as printing frame, cut out the shape required with deep serrated edges.—E. J. FEILDEN.

3832. **Purple Tones.**—As regards gold solution stock—15 grs. gold, $\frac{7}{8}$ ozs. water—great mistake here. Try solution 15 grs. gold, 15 minims water. One minim equals 1 grain. Make a toning bath as follows:—1 gr. gold, 30 grs. tungstate soda, 8 ozs. water. Wash prints in changes of water for fifteen or twenty minutes; keep your toning bath, if possible, between 70 and 80 degs. All red colour should have disappeared, and purple colour to prints. Now bath for three minutes; 1 oz. salt, 1 pint water, 3 drops ammonia '880; follow hypo 2 ozs., 1 pint water, ten minutes. Soak prints for about fifteen hours, changing about three times or so. Don't splash from one bath into another. Keep your fingers clean.—PETER PIPER.

3832. **Purple Tones.**—If your negatives are of proper quality, and it is only from clear vigorous negatives that prints that will tone to a good purple colour can be obtained. I have no doubt that your toning bath is in fault, being much too poor in gold. Try doubling the proportion; if this does not prove a remedy, increase the strength in proportion of 1 gr. gold to 8 or even 6 ozs. of solution. Wash prints before toning in three changes of water, the second water to contain carbonate of soda, about 1 oz. per gallon. See also that your fixing bath is rendered alkaline by the addition of sufficient liq. ammonia to cause it to smell slightly. Read articles upon "Photographic Printing Processes," by Mr. Pringle, which have been appearing in this journal for some time.—F. W. G.

3833. **Plates.**—The sensitometer number of the Ilford ordinary is, I believe, No. 18, and is written on the labels of their plate boxes.—HYPO.

3833. **Plates.**—No. 18. It is on some of their labels.—SELF-TAUGHT.

3833. **Plates.**—Sensitometer number of Ilford ordinary is 18. It is on every box.—J. H.

3835. **Channel Islands.**—The best views are on the coast, and exposures must be shortened for these. Mont Orgueil Castle, St. Aubyns, and Corbière Point can all be reached from St. Heliers by rail; and besides these St. Ouen's Bay and Greve-de-Lecq should be visited. Luggage is examined on return to England. Guernsey and Sark are also worth going to.—F.

3836. **Norway.**—See the Ilford Company's "Scraps" for May. It gives considerable information of the subject.—J. H.

3837. **Toning and Fixing.**—Take a few practical lessons. If you have to pay for same, always money in pocket in the long run. Try the simple bath given in answer 3832.—PETER PIPER.

3837. **Toning and Fixing.**—You cannot use a

better paper than that made by the Blackfriars' Co. A good toning bath is made as follows:—

Gold Solution.		
Gold ...	...	15 grs.
Distilled water ...	...	15 drms.
Keep in the dark in a blue glass stoppered bottle.		
Bath.		
Powdered borax ...	...	45 grs.
Bicarbonate soda ...	...	45 "
Distilled water ...	...	10 ozs.

When dissolved, 1 drim. gold solution.

This bath will, if kept in the dark, remain good any length of time. Fixing bath, 4 ozs. hypo to 1 pint water, to which have been added 3 drops of liquor ammonia fort. '880.—E. J. FEILDEN.

3838. **Case for Camera.**—Waterproof canvas, with shoulder strap.—E. J. FEILDEN.

3838. **Case for Camera.**—I have used one of Lancaster's cheap canvas waterproof cases for two years, and have found it to be an efficient protector of camera, lens, etc., and very light.—HYPO.

3840. **Herne Bay.**—There is no place where plates are regularly sold, but I have no doubt Mr. J. Craik would oblige you. He would for a small fee allow you to use his dark-room at the Pier, also that at Canterbury.—E. J. FEILDEN.

3844. **Concentrated Developer.**—With the developer, but it is best kept separate.—E. J. FEILDEN.

EDITORIAL.

NOTE.—Anyone requiring an opinion upon photographic apparatus, plates, etc., must give a number or initial for identification, as in no case will makers' names be inserted in this column.

SPECIAL NOTICE.—We are very pleased to find that replies in this column are so much appreciated, but we should be very grateful if those requiring advice would send their letters to us BEFORE TUESDAY MORNING'S post if possible. The time occupied in replying in this column is very considerable, and owing to the often late receipt of letters, many matters have to be left over each week. This we much regret.—ED : AM : PHOT:

W. L. GROVES (Deal).—Thanks for yours. Messrs. F. Davis, F. W. Muncey, M. W., and the Hon. J. G. P. Vereker will be pleased to hear that you have found their letters of service to you.

J. R. CORMACK.—Enlargements are not admitted in the Monthly Competitions. We shall have a special competition for "enlargements" later on. Prints are to be mounted, not framed.

FIRMNESS.—Both useful cheap tripods. B will answer your purpose.

THOS. HARGREAVES.—We place them for your purpose as follows: No. 1, 9, 5, 8, 2. With No. 1 the R.R. lens will be found very fair. A, B make special lenses of short focus for hand-cameras.

F. G. M. BAKER (Trieste).—Glad to help you at any time. Thanks for letter, which we publish.

J. B. CHAPMAN.—The shutters we place 3, 2, 1, 7, 8. If C can be fitted with roll-holder, we should advise it. G has a roller, and is very compact, but is only made in very small size. Of the other cameras we should recommend H and A.

A. H. BLANKLEY.—The remarks had no reference to the crew of the *Hilda*.

H. D. TAYLOR.—The date will do nicely. MISS BEATRICE M. WILSON.—Thank you for the print from isochromatic plate. The subject is very faithfully rendered.

EDWIN H. JEFFREY.—Your photographs are very good, and the effect secured in several is exceedingly artistic. We were able to answer the queries that were required of "Q." and so the letters have been destroyed.

LAX.—We do not care for No. 1, or know of any special merit they may possess. No. 2, we do not know the camera.

G. R. (Corfu).—Your photographs would not stand a chance yet for prizes at exhibitions. No. 1 lacks definition, you should have used a smaller stop and prolonged exposure. No. 2, your foreground is not at all satisfactory; in fact, no subject in the picture is sufficiently bright and clear for a tree study, which should be sharp and crisp. No. 3 is not well-lighted. No. 4 is distinctly bad. If you send us particulars of photographs, such as light, lens, stop, plate, exposure, printing process, etc., we will try and help you. Both A and B are first-class lenses; we should advise you A.

M. R.—The (1) lens is not equal to (2), the (3) lens is good, and so are (1); but if price is not an object we should advise (2).

W. J. HARRISON.—Your request has been attended to.

W. MONKTON.—We will send "Travelling Studentship" Rules, and write you. MS. duly to hand.

W. H. ARMITAGE.—Our letter re "Lens" mentioned, which is a first-rate article, has been returned, through being wrongly addressed. Sorry if the non-receipt has caused you inconvenience.

J. F.—Various colours are to be secured with the plates you name. There is no need for the sky to

be plain white glass. We do not know the price of the tripod, and have no means of telling except asking the maker, which you can of course do.

AULD BREKIE.—Our own practice would have been to wash the negative before putting in the clearing solution. Send us one of the negatives with the stains, and we may be able to help you to take them out.

LOLA.—We know of no camera at the price you name that is reliable. The German-made camera that we have seen has a roll-holder, but we do think in practice it will be found reliable. We can not speak from actually using the apparatus, but only from the few experiments made with it when sent us for inspection.

G. W. COWAN.—For the Royal Parks write to Mr. H. W. Primrose, H.M. Office of Works, Whitehall, S.W., and at the same time ask the other question.

THOS. JAMISON.—We cannot help you. Why not write to the maker? They are advertised to give "full latitude of exposure from very rapid to slow or prolonged."

T. C. BUSH.—We are reporting to Mr. Gardner. J. C. DAWSON.—We will finish with Mr. Bulmer. The firm you name are not prompt in business, but are, we believe, thoroughly trustworthy.

MOYLE.—The following is the order in which we place the lenses—2, 1, 7, 3, 4, 5, 6, 8. We should advise the lens of larger focus.

REG.—We insert your letter under your own name, and should say you might well get up a society. Why not ask Major J. F. Nott to be President?

E. J. FEILDEN.—Very well indeed, we should think. Will you let us see your scheme, and give us a call one Monday or Thursday?

PONTRESINA.—For Swiss scenery, open views, especially if among the mountains, you should make rapid exposures. With the plates you mention you can stop one lens down to $f/11$, or even to $f/16$, under suitable conditions, and get good results with the shutter working at a moderate speed. In development great care must be exercised in order to get out detail and prevent hardness. (1) With equivalent stops the exposure of the two lenses is the same. (2) If you are accustomed to any particular formula, and find you get on well with it, have it made up in a very concentrated form, so that two small bottles in wooden protecting boxes can be made to serve your purpose. (3) Hypo can be bought in nearly every town in the country you mention; but the quality is frequently so inferior that it is best to carry some with you. By economising it a little it can be made to go a long way.

TOM TRUMB.—(1) The prints appear to have been left a little too long in the toning solution, and then they probably carried over a certain amount of acid to the fixing bath, which, of course, became excessive after a number had been immersed, hence the yellow colour you speak about. (2) Stop the toning earlier, and make the hyposulphite bath distinctly alkaline. The spots and discolorations on the prints seem to be the result of using dirty dishes, or ones which have previously been used for developing negatives with pyro. (3) About the same as for ordinary silver-printing. (4) Yes, but the matt-surface paper is the best for the purpose.

J. PRICE.—From our experience we think the eikonogen had better be added when the solution is cold. If dissolved in the hot water to the point of saturation, it will, of course, throw down crystals as the water cools. Try filtering the solution, and keep it well corked up. We cannot trace your other letter.

A. B. C.—Hinton's.

ENQUIRER.—Inserted in "Query" column.

A. E. BIRCH.—We will register your application, JOSEPH S. THOMSON (Dublin).—We shall be pleased to see you. Will do what we can to help you.

A. H. KINSEY.—There are no exhibitions coming on at present. Every exhibition is noted in the AMATEUR PHOTOGRAPHER.

TENNIS RACQUET.—Mr. J. J. Spink, of 21, Witham Street, Herne Bay, will give you every information.

First Ladies' Photographic Competition.

PHOTOGRAPHS have been received from the following:—

Mrs. Louisa Mary Wall.
Miss Claire Vaughan Davis.
"Annesley.
"Agnes Caroline Burns.
"Margaret Watson.
"Henrietta Beaton.
"Philipson.
"Jane Cleland Burns.
"A. M. Williamson.
"Louisa A. H. Malcolm.
"M. J. Hands.
"Mary Alice Henderson.
"Dora Anderson.
"Madge L. Ibbetson.
"Kuth L. Ibbetson.
"Rose Wood.

Sale and Exchange.

RULES.—Fourpence for twelve words or less, and a penny for every additional three words, must be enclosed with each advertisement, together with the name and address of the sender, which must be paid for, and sent to Hazell, Watson, and Viney, Ltd., 1, Creed Lane, Ludgate Hill. Halfpenny stamps preferred. A single figure, or group of figures undivided by letter, space, stop, or words, counts as one word; compound words count as two words.

REPORTING UPON APPARATUS.—The Editor of the AMATEUR PHOTOGRAPHER will be pleased to report, to any intending purchaser, upon apparatus etc., offered for sale in the "Sale and Exchange" column, provided such apparatus, etc., is forwarded by the seller to him to the offices of the AMATEUR PHOTOGRAPHER, 1, CREED LANE, LUDGATE HILL, LONDON, E.C., free of charge. The intending BUYER to pay a fee equivalent to a commission of 2½ per cent. upon the sale price of the apparatus, etc. The publishers will undertake the packing and sending of all goods at the cost of the SELLER. As far as possible, the Editor will undertake to send a report within two DAYS of receipt of goods.

DEPOSITS.

Deposits for goods to be forwarded on approval may be made with our Publishers, who will hold the amounts deposited until they are satisfied that the transaction has been executed to the satisfaction of both parties. Cheques and Post Office Orders should be made payable to Hazell, Watson, and Viney, Ltd. A nominal charge of 1s. is made whether a sale is effected or not.

Advertisements can be inserted under a number, the name and address being registered, and letters forwarded for a fee of 6d. to cover postage.

N.B.—Trade Advertisements cannot, under any circumstances, be inserted in this column. Such advertisements can be inserted elsewhere at the Trade Scale, which may be obtained on application to Parry and Crawford, 1, Creed Lane, Ludgate Hill, London, E.C.

"Amateur Photographer," etc.—AMATEUR PHOTOGRAPHER, vols. vii. and viii., bound, perfect condition. Decoudun's photometer, for sale or exchange; what offers? — Wm. A. Jackson, 1, St. Vincent Place, Glasgow.

Cameras, etc.—Whole-plate mahogany camera, rack and pinion adjustment, extends 18 ins., closes to 3½ ins., swing-back, reversing frame, rising front, one double dark-slide, very light and portable, perfectly new; £3 10s.; half usual price; on approval if desired. — D. Padgham, Northiam, Sussex.

Half-plate camera, three dark-slides, 50 numbers AMATEUR PHOTOGRAPHER; exchange quarter-plate Instantograph. — Graham, New Lanark.

Lancaster's quarter-plate 1889 Instantograph, double back, printing frames, developing dishes, roller, and carrying case, complete; 42s. — Dickinson, 3, Ivy Street, Salisbury.

Camera and Double Backs.—Half-plate camera, best Spanish mahogany leather bellows, long extension, rising, falling, and cross fronts, double swing-back, with rack and pinion arrangement, reversing frame, rack and pinion adjustment, with 3 double dark-slides; the whole brass-bound throughout; cost £10 10s.; will take £5.—Apply, H. W. Fielden, Barbican Court, Barbican, E.C.

Camera, Lens, etc.—Wratten and Wainwright's whole plate camera, three double backs, Ross' rapid symmetrical lens, all in perfect condition, leather case, printing frames, lamp, chemicals, measuring glasses, etc., etc.; net cost, £17 8s.; price £21.—Apply, James McConell, 2, Eaton Place, London.

Hand-Cameras.—Kodak detective camera, equal new; cost 105s.; price 55s. lowest; or exchange with cash for Dallmeyer half-plate R.R. lens.—Bygrave, 15, Canterbury Road, Brixton, S.W.

Marion's Parcel camera, six plate-holders and shutter, smallest quarter detective, splendid fixed focus lens; cost 80s.; price 35s.; or offers in cameras.—Box 43, St. Helens, Lancashire.

Second-hand Watson's hand-camera, leather-covered, Iris diaphragm lens, with quarter-plate roll-holder, all in good condition; £6 10s. Also

second-hand Watson's hand-camera, leather-covered, Iris diaphragm lens, and three double slides; £7.—Can be seen at Stereoscopic Company's, 106, Regent Street, W.

What offers for my quarter-plate Eureka hand-camera, covered with black leather, cost £7 3s. (by Rouch), only used seven times?—Sutton, 21, Waterloo Place, Upper Leeson Street, Dublin.

Hand Cameras, etc.—Quarter-plate Artist hand-camera, with excellent lens, in lock-up leather case, and with tripod; complete, in perfect condition; for six guineas; cost double. — T. M., Cotswold, Cirencester.

Lantern.—Lantern, enlarging and exhibition, four-wick, 4 in. condensers, unused; cost 50s.; price 40s.; approval.—Hunt, 5, Queen's Crescent, Glasgow.

Lenses.—Optimus Ruryscope, used once, perfect, 7 by 5; 70s.—Round, St. Thomas's Hospital.

Portrait (cabinet) lens, full aperture 1½ ins., front combination 10 ins., capital view lens, lenses 1½ ins.; 20s. only.—R. Ferns, Liscard.

Marion's 8 in. focus rectilinear splendid lens; cash 30s.—Parlow, 16, Victoria Street, Triangle, Hackney.

Lancaster's half-plate instantaneous lens, Iris diaphragm; £1.—Summers, 148, Stanstead Road, Forest Hill.

Lenses, etc.—Lancaster's half-plate instantaneous lens, fitted with Iris diaphragm and shutter; 20s.—Lowson, 16, Westborough, Scarborough.

Lancaster's quarter-plate Instantograph lens and shutter; price 14s. 6d.; approval; deposit; new.—Lee, 1, Whitestile Road, Brentford, W.

Organ.—Peerless pneumatic organ, with 20 pieces music; cost six guineas; would exchange for good half-plate set. — T. B. Walshe, address with Publishers, AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C.

Retouching Desk.—Marion's retouching desk, never used, quite new; cost 50s.; price £1.—Mrs. Bennett, Cadbury House, North Cadbury, Bath.

Sets.—To be sold, cheap, half-plate bellows camera, four double dark-slides, tripod.—MacManus, Athlone.

Half-plate camera (by Photographic Artists' Supply Association), R.R. lens, three double dark-slides, in solid leather case, tripod stand; price £7 10s.; on view.—E. T. Ward, Winchester House, E.C.

Mayfield's 3½ in. square camera, R.R. lens in case, walking-stick tripod, three double backs, splendid condition; 75s.; approval; deposit.—Birton, Bisham Gardens, Highgate.

Half-plate Lancaster's Le Meritoire camera, complete outfit, consisting of lens, one double back and tripod, quite new; cost 63s.; will sell for 50s., or exchange 8½ by 6½ Optimus lens. — Elphick, 57, Stonefield Road, Hastings.

Half-plate photographic set, complete, 50s.; cabinet burnisher, 13s. 6d.; magic lantern, 35s.; scenic background, 20s.; terrace accessory, 15s.—2, Peter's Street, Dereham Road, Norwich.

Wooden half-plate camera, perfect condition, 10s., large powerful lens for same, 15s.; two tripod stands; folding into small space for whole-plate camera, 7s. 6d. each; one view-finder, 5s. — Mrs. Martin, Mariborough Hall, Norfolk.

Half-plate square Tourist camera, with 3 double backs and Eastman's roll-holder, 33 unused exposures, Swift's 14 in. landscape lens, with Iris diaphragm, Thornton's shutter for time and instantaneous, in good condition.—Address, Balty, office of AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C.

Sundries.—New mechanical ruby lamp, photometer, and large pair scales; sacrifice, 12s. Wanted, studio stand, head rest, and quarter camera.—A. D. Clarke, Pailton, Rugby.

Tripod, Telescope, etc.—Oak sliding tripod, exchange for half-plate instantaneous shutter; also old marine 6-lens telescope (by Louis Woolf, Liverpool), exchange anything useful. — J. Cuesar, St. Margaret's Station, Twickenham.

WANTED.

"Amateur Photographer," No. 6, vol. 1, Nov. 14th, 1884. — A. M. and W. Clark, 53, Chancery Lane.

Backs.—Two half-plate Instantograph (Lancaster's) backs, at once, cheap.—M., Avenue House, Chapel Street, Gosport.

Cameras.—Good portable whole-plate camera, all modern adjustments, cash or exchange.—A. Stradling, Cirencester.

Half-plate camera, with all modern improvements, lowest price for cash; approval. — Hugh Walton, Ironmonger, Alston, Cumberland.

Camera Case.—Good whole-plate camera case, cheap; give inside dimensions. — MacManus, Athlone.

Dark Slides.—Double dark-slides, for Lancaster's half-plate Instantograph.—Jones, 21, Albert Road, Brockley, S.E.

Three half-plate slides, solid form preferred, perfect; approval.—Rev. Page, Torquay.

Hand Camera.—Thoroughly reliable hand-camera, good condition, make and full description. —Lux, 37, Banbury Road, Oxford.

Lenses.—Half-plate Optimus R.R. and W.A. lenses to fit same flange.—Bidlake, Solicitor, Wellington, Salop.

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PUBLISHING DEPARTMENT.—All letters containing Subscriptions, Orders, Remittances, SALE AND EXCHANGE Advertisements, or other business matters for the *Amateur Photographer* are to be addressed to the Publishers, HAZELL, WATSON, AND VINEY, LD., 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

NOTE.—SALE AND EXCHANGE Advertisements, at the charge of Three Words for One Penny, can be received as late as WEDNESDAY MORNING.

ADVERTISEMENT DEPARTMENT.—All communications respecting TRADE Advertisements in the *Amateur Photographer* are to be addressed to PARRY AND CRAWFORD, 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

NOTE.—Trade Advertisements are received up to Tuesday morning.

EDITORIAL DEPARTMENT.—All Literary Contributions, Queries and Answers, Photographs for Competition or Criticism, Books or Apparatus for Notice or Review are to be addressed to the Editor, *Amateur Photographer*, 1, Creed Lane, Ludgate Hill, London, E.C.

NOTE.—To ensure insertion, all Communications should reach the Editor on Tuesday.

CORRESPONDENCE SECTION.—Anyone wishing to communicate with Contributors can do so by forwarding such Communication in stamped envelope under cover to the Editor, *Amateur Photographer*, 1, Creed Lane, Ludgate Hill, London, E.C.

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NOTE.—The adjudication will be made by lady artists and lady photographers. It is hoped that it will be possible to make arrangements to exhibit the photographs at a *Conversazione* to be held in the offices, 1, Creed Lane, E.C., during the month of June.

Further particulars on application to the Editor, "*Amateur Photographer*," 1, Creed Lane, Ludgate Hill, London, E.C.

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The Papers must not exceed 1,000 words; and these which are awarded Prizes will be published in the *AMATEUR PHOTOGRAPHER*; others will be selected, and will be arranged for publication in the

"AMATEUR PHOTOGRAPHER'S ANNUAL."

Contributions are to be upon the subjects as list given below; and in order to make the matter more interesting, it is requested that each competitor shall give his *personal experiences*. It is intended that each subject shall be written up by a specialist for the *ANNUAL*, and the latest information given. All MSS. must be received not later than the

28TH OF EACH MONTH.

Subjects.

28th May	Exposure.
28th June	Plates and Films: their Development and After Treatment.

All MSS. to be addressed to the Editor, "*Amateur Photographer*," 1, Creed Lane, Ludgate Hill, London, E.C.

EDWARDS' ISOCHROMATIC PLATES.

"Lafayette" writes:

"Dublin, March 29, 1890.

"You will be glad to hear that I have been awarded the Gold Medal at the Crystal Palace Exhibition. I am exhibiting four of the extra large pictures, size 33 x 19, and then some grand panels and 15 x 12's, all on your plates, and taken direct."

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Edited By CHARLES W. HASTINGS

1, Green Lane, Ludgate Hill, London, E.C.

TELEPHONE No. 1645. Telegraphic Address: "VINEY, LONDON."

Vol. XI. No. 296.]

FRIDAY, JUNE 6, 1890.

[PRICE TWOPENCE.]

OUR VIEWS.

To hold as 'twere the mirror up to nature."—Shakespeare.

THE Editor of the *Photographer*, published in Glasgow, is kind enough to send us every month a copy of his journal, which has news of an interesting character, and contains a *rechauffé* of the month's photographic doings. We note from it that Herr H. F. R. Voigtlander, the head of the firm of Voigtlander and Son, has just received the honour of knighthood at the hands of the Emperor Francis Joseph. Mr. George Mason continues his articles on "Dry Plate Photography for Beginners," and in the issue under review carefully describes Liesegang's aristotype printing-out paper, with formula for toning, etc. A very capital illustrated description of Swinden and Earp's camera is also published. Those who have not seen this magazine should write for a copy.

* * * *

WE are pleased to announce that there are thirty-five entries for the "Ladies' Photographic Competition;" this must be considered highly satisfactory. The judges will be Mrs. Eveleen Myers, Miss Edith Scannell, and Miss Ida Verner. The awards will be made public in our issue of the 20th of June. Much care has been displayed in preparing the photographs for the Competition; many of them are of very high excellence.

* * * *

AN ingenious calculator has pointed out that for the English Automatic Photographic Company to take only £30,000 a year from photography would require about 7,200,000 people being taken.

* * * *

THE popularity of photography is again shown by the fact that at the Royal Victoria Hall, Waterloo Bridge Road, S.E., Dr. J. A. Fleming delivered a lecture, entitled "How a Photograph is taken," to a large audience of the working and labouring class resident in that vicinity. The lecture was listened to with much attention, showing that the knowledge of "how to take a photograph" is keenly appreciated.

AN intrepid lady named Miss Kate Marsden has just received official permission, through the influence of the Czarina of Russia, to visit all hospitals, prisons, and places where information connected with the study of leprosy in Russia, Siberia, the Caucasus, and Asiatic Russia can be obtained. She will also have opportunities, as an amateur photographer, of placing on record the various types of this terrible disease, and the camera may, in company with the pen, thus help in its extermination.

* * * *

LAST Friday, on the occasion of the *soirée* given by the Photographic Section of the London Chamber of Commerce to inaugurate the exhibition at the Drapers' Hall, there was a very distinguished company. In another column we give a report of the proceedings at the function on Friday, and also a review of the apparatus and photographs exhibited. In the exhibition there is positively nothing new, save and except the Cyliodograph camera, which is likely to work a revolution in the method of "taking views." The range of view taken by this camera being covered by half the circumference of a circle. We shall hope to publish a full description of the apparatus and its capabilities. The promoters of the Drapers' Hall Exhibition have been very desirous that it should be known that the exhibits were entirely those of traders and professional photographers, and that no assistance had been rendered by the amateur to get up the Exhibition. On Friday evening there were very few amateurs present, or, in fact, many photographers except the exhibitors, their friends, and the editors of the Photographic Press; the rest were City people, few being versed in photography. We strongly advise our readers to visit the Exhibition. If there is little that is new exhibited, it is not every day that the palatial halls of the Drapers' Company are thrown open *free* to the public. But whether the Exhibition will be a success as a business enterprise we cannot say. It does not strike us that many people will go into the City with the idea of buying, or even selecting cameras, etc., to buy.

TRAVELLING STUDENTSHIP COMPETITION closes June 14th, 1890.

In the bright days of June, as we have said before, the professional is too busy, and the amateur will rather wander, camera in hand, on the banks of the river or stalk cattle on the hills, than *do* a photographic exhibition in the City of London.

* * * *

WE devote considerable space to Mr. F. D. Bulmer, and feel sure that many of our readers will, after perusal of the excerpts from the selected letters, give him a wide berth. It will be seen that the makers of apparatus hold him in about the same esteem as do the customers he has given so much trouble to.

* * * *

WE have another matter to bring under the notice of our readers. For some time subscribers have asked questions as to hiring apparatus, and a Mr. Batten kindly volunteered to give the address of a firm. We have sent on many letters to Mr. Batten, and now find that he is working in collusion with a Mr. C. A. Baines, financier, etc., London, S.W. This gentleman has struck the brilliant idea that in addition to selling on his "New Payment System," diamonds, gold and silver watches, furniture, soft goods, glass and china, carriages, perambulators, etc., and advancing money in loans from £2 to £50, he would take up the sale of photographic apparatus. His terms are "one-third of the amount down with the order, and the balance by equal monthly payments. If you are not a householder, I require two as sureties." This man is to all intents and purposes a "tally man" and money-lender. We caution our readers against doing business with him. We shall be careful how we accept answers from Mr. Batten in future, and are very sorry for the trouble and annoyance he must have given many of our readers.

* * * *

WHEN we drew attention to the Photographic Salon to be held in Vienna, we inadvertently named the Vienna Photographic Society as promoting the Salon. As a fact, the idea has been conceived, and will be carried out by the Executive of the Vienna Club of Amateur Photographers. There would seem to be a very certain success in store for the club. Herr Carl Ulrich, a Vice-President of the Club, is in England at the present time and has interviewed many of the leading photographic workers. There is every reason to believe that this country will be well represented. The Salon will be under the immediate patronage of Her Imperial and Royal Highness the Archduchess Maria Theresa.

* * * *

WE are pleased to note that a club has been formed at Enfield under the presidency of Mr. D. G. Pinkney. There are many of our readers resident in and around Enfield, and we would suggest that they communicate with the Hon. Secretary, Mr. James Dudin, Roseneath, Chase Green Avenue, Enfield, who will forward them particulars of membership, etc.

* * * *

NEXT week we shall hope to give an account of the pictures now being exhibited at Hexham by Mr. J. P. Gibson. We have several times drawn attention to the beauty and perfect work done by Mr. Gibson. At Hexham he is show-

ing some 400 pictures—a truly wonderful collection for a "one-man" exhibition! In pure landscape photography Mr. Gibson stands unsurpassed.

* * * *

THE article in the next issue of the PHOTOGRAPHIC QUARTERLY, by Mr. F. Bligh Bond, entitled "Photography in Natural Colours," will be illustrated by a chromo-collo-type printed from negatives made sensitive to certain rays of the spectrum, full particulars being set out in the article. The work is being done for us by Messrs. Waterlow and Sons.

* * * *

WE noted in our issue of May 16th the initiation, at the instance of Mr. Andrew Pringle, of an organisation at Eton College, for the study of photography by the boys. The lead has already been followed by another public school, to wit, the Whitgift Grammar School of Croydon. On June 2nd a course of twelve lectures, with demonstrations, was begun by a prominent member of the Croydon Camera Club. Already sixteen students have joined the class, and several others are expected to avail themselves of the opportunity afforded of becoming well grounded in the fundamental theories and processes of the art-science.

* * * *

OUR Liverpool District Editor advises us that Mr. Paul Lange, President of the Liverpool Amateur Photographic Association, is about to proceed to Iceland in the British Yachting Company's s.s. *Myrtle*, to take a series of 200 views in that almost unphotographed country. If the photographs taken are on a level with Mr. Lange's well-known views of Norway, they will indeed be a welcome addition to view-photography.

* * * *

THE Travelling Studentship Competition closes on Saturday, the 14th inst. All intending competitors should *at once* apply for rules and entry forms, and we must ask that the competing photographs be sent to us as early as possible.

* * * *

FROM the tenor of the numerous communications that reach us from time to time, and from circumstances which come under our own personal notice, we are led to conclude that although amateur photographers have hitherto shown themselves to be a long-suffering and patient race, the limit of their endurance has nearly been attained, and if hereafter vigorous measures are adopted for their own protection against the unreliable tradesmen with whom they have had to deal, a careful review of the facts that may give rise to any combined action similar to that indicated will be ample justification for such mutual co-operation. It will also tend to convince photographic dealers that their methods of business cannot for ever be successfully carried out when they in any way go counter to the doctrine inculcating the fact that "honesty is the best policy"—in the long run, at any rate. It requires now but a very short experience of photographic work for the amateur to discover the fact that he is almost entirely at the mercy of a certain class of business men, also that perfectly trustworthy dealers in the commodities he requires are, to put it mildly, not as numerous as he might reasonably desire. Further, even if, after selling him

worthless goods and causing him expense and annoyance, a word or two of regret, backed by some desire to make any amend possible, were forthcoming with any spontaneous alacrity, perhaps the grievances would not rankle so keenly as they do; but as it is, we are forced to admit that on various occasions information has reached us that the victims of this method of business have had to remind certain firms that by becoming amateur photographers they had not placed themselves outside the pale of law, and that perhaps an appeal to a court of justice might convince a vendor of spurious articles of this fact, which they apparently find it convenient to ignore.

With a full knowledge of the circumstances, we feel safe in asserting that there are few amateurs of any standing who do not annually pay away a percentage of the total cost of their hobby for worthless goods. Many men have sold their cameras and ceased the practice of the art for no other reason but the unreliability of dealers, their exasperation being increased by the knowledge that the margin of profit on the class of goods sold is ample to warrant articles of the very best quality being supplied, as evinced by the fact that firms who a few years ago were conducting small and insignificant businesses in side streets, are now owners of extensive premises in main thoroughfares, and from exhibiting a pleasure in making new customers, they now consider their dignity enhanced by making it appear they are conferring a favour by accepting an order. Bleeding the amateur photographer has wrought many such changes in condition as here indicated, and in return we think in fairness it must be acknowledged he is now justified in maintaining that in future he is entitled to be fairly dealt with.

In no other branch of science or art are its disciples so completely at the mercy of the firms with whom they deal, as photographers. In the matter of plates alone, not only are they very expensive articles to purchase, but in buying them entire reliance has to be placed upon both the vendor and the manufacturers, for even if originally packed in good condition bad storing will accomplish their ruin. Large sums may again be expended upon travelling to distances in order to obtain the negatives for which the plates were procured. The disappointment resulting from any failure in procuring the desired photographs, arising through being supplied with worthless plates, is heightened by the knowledge that time and money have both been expended in making a fool's journey for which no compensation can be forthcoming, the exasperating annoyance being further increased by the feeling that, as things are at present, the victim of such a contretemps cannot obtain any satisfactory insurance against the repetition of a similar experience. Of course, accidents will happen now and again, even when the greatest care is exercised, but under such circumstances honest tradesmen will do all they can to soothe the annoyance caused thereby when they are shown to be responsible. But we are referring to facts within our experience when we state that, even with unmistakable evidence of the worthlessness of the plates palmed off on the unsuspecting victim, complaints have on several occasions simply elicited impertinences which have on certain occasions amounted to positive insults.

Moreover several of the firms who doubtless consider they have reputations of unquestioned respectability would hardly like to hear some of the remarks now and again made by certain of their customers. Their special camera, or plate,

or developer may be all right, a source of profit to themselves and of pleasure to the purchaser when using it, but it is not solely by the aid of such articles that photographs can be made. The photographer has to rely upon numerous requirements of minor value, whose quality may be of vital importance to the finished result of his labours, and it is frequently in these small articles that even the best firms do not hesitate to palm off worthless rubbish in order to make a little extra profit. Photographers understand fully what we mean, and know how difficult it is to be certain of procuring, say, pure chemicals, or those of standard strength, sensitive paper perfectly fresh, cutting glasses correctly squared, lantern masks trimmed properly, cover glasses without flaws, slide binders that will stick, and so on through the long list of what may be called minor necessities. But the experiences of many are not confined to this kind of annoyance alone, for even when purchasing the more expensive portion of photographic apparatus, the mendacity of some firms will provoke the keenest disgust. He is, indeed, a fortunate man who has not been told, in order to induce him to make a purchase, that a camera and slides have been thoroughly tested, and then, relying upon this or similar statements, has taken the apparatus out for a day's work, the result being the discovery that the camera leaks light in various places, or that the regulation of his exposures has been faulty through the incorrect manner in which the lens stops have been marked, or he has found that the dark slides were not in register with the focussing screen. Without further enumerating the troubles arising from untrustworthiness or intentional carelessness—for every one of our readers who employs a camera can, without doubt, continue the list from his own experience—we may say that the amateur photographic fraternity are now beginning to find out that they have the remedy to some extent for this state of things in their own hands. This remedy they will undoubtedly have to put into operation, unless the dealers, as a body, will on their part engage to supply articles with an implied guarantee of quality, and not only state their willingness to rectify to the best of their power any mistake that may arise, but do so without demur directly their attention is drawn to the matter.

In the interests of both parties we have felt constrained to speak forcibly upon this subject, and shall again refer to it, for we are determined to assist to the best of our power the class in whose interests our journal has been established, and to do what we can to obtain for amateur photographers a fair return for their outlay; also to try and prevent as far as possible the useless expenditure, exasperating disappointments, and ensuing disgust with the practice of the art-science, resulting from the method of conducting business which some firms have seen fit to adopt. Fortunately, our strictures cannot apply to many firms of standing, and in order to fulfil our mission we may, if the complaints continue to increase in the ratio they have done lately, have in common fairness to be more specific in our charges.

—♦♦♦♦♦—
CARDIFF AM: PHOT: SOC:—On Saturday last a strong contingent started from the Studio in breaks to this historical place. By the kind permission of Mrs. Nichol Carne, the castle and grounds were thrown open, consequently plenty of work was soon found for the visitors, and a most enjoyable afternoon was spent. On the return journey the visitors dined at Llantwit Major, and reached Cardiff all well at 11.30.]

Letters to the Editor.

CHEAP HAND-CAMERAS.

SIR,—The letter of "F. G. B." of Trieste, in your issue of the 9th May, does not seem to have elicited any information likely to be of service in the direction required.

Other correspondents endorse the remarks of "F. G. B." as to the need of an inexpensive hand-camera, and an enterprising firm secures an opportunity of advertising their special make of cameras, but this result is scarcely satisfactory, and, as I am able to speak favourably of an inexpensive hand-camera, I venture to trespass on your space. A few months ago I purchased one of the "Guinea" hand-cameras invented and manufactured by Mr. Walter Griffiths, of Highgate Square, Birmingham, and after thoroughly testing it, I can conscientiously say that the results are equal to those of the most expensive hand-cameras I have seen.

The camera contains three double dark slides for quarter-plates, and its construction is so simple that the most inexperienced tyro can work it.

In appearance it is like a small sample case $8\frac{1}{2}$ inches long, 5 inches broad, and $6\frac{1}{2}$ inches deep, and it is covered in black waterproofing cloth.

The front lets down for the purpose of setting the shutter, but when ready for work, the shutter is liberated by moving a small catch at the bottom.

I have taken snap shots in one-sixteenth of a second, and interior views in 60 seconds.

An object not less than eight or nine feet from the camera is depicted with sharpness and full definition. The focus is a fixed one.

I shall be happy to write fuller particulars at a future date if required, and to send you some specimens of pictures taken with the "Guinea" camera,—Yours, etc.,

C. E. SCARSE
(Chief Librarian, Birmingham Library).

NOTE.—Perhaps Mr. Griffiths will send us a camera for inspection.—ED:
"AM. PHOT."

SIR,—“F. G. B.” has with commendable generosity given his unqualified approval of the No. 1 Kodak, but he seems to have been stung into a fit of uncontrollable rage by my reference to his uncalled-for and insolent charge against American trade traditions.

“F. G. B.” asks three questions :

(1) What is the actual cost of production of a Kodak No. 1 lens?

(2) What is the actual cost of production of a finished Kodak No. 1 that is sold for five guineas?

As I am not the accuser in the present discussion, I see no reason why I should supply information to my adversary.

As to an explanation of my sentence beginning, “The Eastman Company gave *carte blanche* to two of the most respected and successful manufacturers of photographic objectives in Great Britain,” etc., I have no possible objection to giving the names and addresses of both firms, whenever “F. G. B.” cools down sufficiently to permit him to request the information in ordinarily civil language.

No doubt my education is sadly defective, but it is quite sufficient to prevent me from following any man in a vituperative contest.—Yours truly,

WILLIAM H. WALKER.
The Eastman Photographic Materials Co., Ltd.,
115, Oxford Street, London,
June 2nd, 1890.

* * * *

LIGHT IN THE DARK-ROOM.

SIR,—In my letter of the 12th May, under the above heading, it appears I omitted to make clear a point which at the time seemed too self-evident to need further explanation.

The point I refer to is the nature of the danger incurred where an insoluble compound of hypo is allowed to form during the process of fixing.

I need hardly state, even to the veriest tyro, that an insoluble compound, as, for instance, the above, is quite impervious to the attack of water—*ergo*, no amount of washing will eliminate it. We have, therefore, a residue containing a large proportion of

sulphur in close proximity to the silver deposit forming the image. This residue is particularly liable to decomposition by acids and acid vapours, with liberation of sulphur compounds, the latter acting as more or less powerful bleaching agents.

Silver prints are perhaps more subject to this danger than negatives, and thus premature discolouration and fading is too often owing to acid impurities in mounts and mountants.

Fortunately, the remedy for the above evils is obvious—“Fix only in non-actinic light.”—I am, yours faithfully,

May 26th, 1890.

C. J. DAVIES.

* * * *

BIRKENHEAD V. BIRMINGHAM.

SIR,—Will you kindly insert the enclosed copy of letter which I have this day forwarded to Mr. Reader, of the Birkenhead Society, in reply to his of the 19th inst, and much oblige, yours truly,

J. H. PICKARD.

[COPY OF LETTER.]

361, Moseley Road, Birmingham,
May 30th, 1890.

Dear Sir,—I duly received your letter of the 19th, which I see also appeared in the photographic press before I could have had time to reply to it.

The Birkenhead Photographic Association appears to have produced a set of lantern slides illustrating some of the archaeological features of the Hundred of Wirral, exhibited for the first time a month or two back. On this fact you claim for that Association—(1) Originality for the scheme which the Birmingham Photo Society have in hand for the photo survey of Warwickshire; (2) To have been the first in the world to undertake such work; (3) That the survey of the Hundred of Wirral is an accomplished fact. On all these three points I must say that you are altogether in the wrong. Piecemeal work of this kind has been done by societies, by individuals, and by commercial firms ever since the discovery of Daguerre was published to the world in 1839.

The President of our Birmingham Society, J. B. Stone, Esq., caused an archaeological survey of the Hundred of Hemlingford, in North Warwickshire, to be executed twenty-five years ago, and the hundreds of 15 by 12 negatives then produced are in his possession. His monograph on “Lichfield Cathedral,” published in 1870, and for which almost every stone of the building was photographed, was a similar work on a smaller scale.

But hundreds of similar instances could be given. Why, our own collection of lantern slides illustrating some of the principal features of the county of Warwick was exhibited in Liverpool some months before the lantern slides of Wirral, which you consider to represent a county photographic survey, were completed.

It appears to me that your letter is based upon a complete misconception of the nature and scope of the work we hope to do in Warwickshire. Yet our ideas are fully expressed in the paper read by our Vice-President, W. Jerome Harrison, Esq., F.G.S., which was published in the AMATEUR PHOTOGRAPHER, in the *Photographic News*, and in the *British Journal of Photography*, etc., etc., during December 1889, and which has been reprinted in pamphlet form and distributed (to the extent of 1,000 copies) among photographic societies and photographers generally. A copy was, I believe, sent to you, and if you will carefully read it you will see it contemplates something very different from the production of a set of lantern slides. The points which we consider essential in our survey scheme are—

1. That the unit of area should be the *county*, a district well known to every Englishman.

2. That a County Council should be formed, which should organise the work to be done by the different photographic societies in the county.

3. That the other local societies—scientific, literary, and artistic—should be asked to assist in the scheme, and be represented on the Council.

4. That workers generally—who may not belong to any society, or who may know nothing of photography—may join a survey “section,” and thereby assist in the work in one way or another.

5. That the Ordnance six-inch map be taken as the working map for the survey.

6. That the principal objects of the survey be to illustrate (1) archæology, (2) architecture, (3) landscape scenery, (4) ethnology, (5) botany, (6) geology, (7) town life of the county.

7. Old engravings, documents, etc., relating to the county are to be copied.

8. The collection as far as possible, and the preparation and publication of as complete a list as possible, of all local negatives already in existence, referring to the points mentioned in (6). It is believed that some thousands of such negatives are already in existence.

9. The production of prints in platinotype from the negatives

obtained, the said prints being bound in albums of which sets shall be preserved in the Society's library, in the local free libraries, and in the British Museum.

10. The publication—quarterly or annually—of a selection of the prints obtained.

These are some only of the points we consider essential to any project which is to be dignified by the name of the "County Photographic Survey;" and for further details I must again refer you to Mr. Harrison's pamphlet. I estimate that the members of our Birmingham Society have already in hand about 1,000 negatives which have been taken during the last five years with an eye to the survey work.

During the next two or three years it is probable that about 3,000 negatives per annum will be taken specially for the Warwickshire Photographic Survey, and we shall then consider that we have fairly commenced the work. Its completion will, we hope, occupy us for the rest of the century, and after that it will afford occupation for generations of photographers yet to come.

I trust that your Birkenhead Society will work out a similar task, and not imagine that the production of a set of lantern slides, illustrating a part of one subject of a part of a county is anything more than an extremely small instalment of so great a work.—Yours truly,

Chas. B. Reader, Esq.

J. H. PICKARD.

P.S.—I am compelled to send a copy of this letter to the AMATEUR PHOTOGRAPHER, as your letter to me has already appeared therein; but I think that it is setting a very bad example for photographic Societies to attack one another through the photographic Press, and must decline any further correspondence.

* * * *

MEDALS AT THE CRYSTAL PALACE.

SIR,—I have this morning received a letter from the Managers of the late Crystal Palace Exhibition, saying that they will now forward me the second medal as soon as it comes from the engraver. I therefore hasten to let you know this, in order that my letter to you of a few days since may be kept out of your next issue, in fairness to those gentlemen.—I am, yours, etc.,

May 30th, 1890.

ARTHUR A. CARNELL.

* * * *

MR. C. HUSSEY AT FAVERSHAM.

SIR,—Your kindly notice (in your issue of the 30th ult.) of my paper read before the members of the Faversham Institute Photographic Society, unintentionally misrepresents my views on photography.

The points I endeavoured to impress on my audience were:

(1) That a photograph to be of permanent value *must* be artistic.

(2) That much may be done, even with topographical photographs, by choosing a good point of view, proper time of day and year, etc., to add to their artistic value.

(3) That the artistic excellence of many well-known and much-admired photographs (some of Mrs. Cameron's, for example) exists not in but in spite of their technical deficiencies.

(4) That by means of the new processes and perfected apparatus, and abundance of literary matter now at our disposal, manipulative skill is so easy to acquire that bad technique is altogether inexcusable.

(5) That, however good a photograph may be from an artistic point of view, its good qualities cannot be damaged, but rather enhanced, by perfect technique.

These opinions are, I venture to think, in accord with yours, sir, and those of most of your readers, and are hardly expressed by the phrase "dwelling in detail on the importance of technique," and I therefore beg the favour of a space for personal explanation in your columns.—I am, sir, yours faithfully,

Camera Club, 21, Bedford Street, W.C.,

CHAS. HUSSEY.

June 2nd, 1890.

NOTE.—The report was published as contributed to us.—ED: AM: PHOT:



SUPPORTS FOR WASHING PRINTS AND FILMS.—In a recent issue we called attention to the invention of Mr. T. Stanway, of Cauldon Road, Hanley, Staffordshire, for his supports to be used in the ordinary plate-washing rack. Those we have just received are an improvement upon those which were shown us. By their use it is quite impossible to tear the print or film. Mr. Stanway has also invented a very ingenious plate-lifter. For those who prefer not to have pyro stains upon their fingers, they will be found most serviceable.

Chemistry for Photographers.

By C. H. BOTHAMLEY, F.I.C., F.C.S.

(The Yorkshire College, Victoria University).

(Continued from page 375.)

CHEMICAL NOMENCLATURE.

THE names given to chemical compounds should be as brief and simple as possible, but at the same time they must distinguish the particular compound from all others, and should be descriptive, *i.e.*, should convey as much information as possible concerning the compound and its relation to others. Nomenclature is largely a matter of convention and agreement, and is also dependent on the state of our knowledge. As a consequence the names of many substances have been changed, and we not unfrequently find one and the same substance with three somewhat different names. As our knowledge increases, nomenclature becomes more and more systematic, though the older names are dropped very slowly, especially in the case of substances which are in common use. The system which we shall use is that agreed upon by modern English chemists, but the everyday names of common substances will not be disregarded.

The name of a *binary compound*, *i.e.*, a compound containing only two elements, is formed from the names of the elements which it contains, the termination of the second name being changed to *ide*. For example, the compound of silver and bromine is called silver bromide; of silver and oxygen, silver oxide; of silver and sulphur, silver sulphide; of sodium and chlorine, sodium chloride.

When the same two elements form more than one compound their names are formed in the same way, but they are distinguished by giving a different termination to the name of their metallic constituent. In the name of the compound which contains the higher proportion of the metallic element (or the lower proportion of the non-metallic constituent) the termination of the metal is changed to *ous*; in the compound which contains the lower proportion of the metal, its termination is changed to *ic*. For example, the first compound of mercury and chlorine (p. 289) is called mercurous chloride, and the second mercuric chloride. The corresponding compounds with oxygen, one containing 400 parts of mercury and 16 of oxygen, and the other 200 parts of mercury and 16 of oxygen, are termed respectively mercurous oxide and mercuric oxide. When the Latin name of the metal is different from the English name, this alteration of termination is made on the Latin name; thus in the case of iron (ferrum) we have ferrous and ferric compounds; in the case of copper (cuprum) we have cuprous and cupric compounds; and in the case of tin (stannum) stannous and stannic compounds. For example, the first of each pair of copper compounds (p. 289) are known respectively as cuprous oxide, cuprous chloride, and cuprous sulphide, whilst the second of each pair is termed cupric oxide, cupric chloride, or cupric sulphide, as the case may be.

Formerly, instead of changing the termination of the first name, the prefixes *proto* and *per* were attached to the second name, *proto* meaning "lower," and *per* "higher;" thus, mercurous chloride was mercury *protochloride*, mercuric chloride was mercury *perchloride*, stannous oxide was tin *protoxide*, and stannic oxide was tin *peroxide*. These names are now rarely used.

The system just described is only available if the same two elements form not more than two compounds; where there are more than two, we have to use the numerical prefixes mono (one), di (two), tri (three), tetra (four), penta (five), hexa (six), hepta (seven), octa (eight), to indicate

the number of combining proportions of the element which are contained in the compound, or, accepting the atomic theory, the number of atoms of the element contained in a molecule of the particular compound. The first compound of tin and oxygen (p. 289) may be called tin *monoxide* and the second tin *dioxide*; the first compound of phosphorus and chlorine is called phosphorus *trichloride*, and the second phosphorus *pentachloride*. This plan can be followed in the case of any number of compounds.

Other points in nomenclature will be explained as occasion arises.

Chemical Formulæ.—Just as we use symbols to represent the elements, so we can use them to represent compounds. A *chemical symbol* is a letter or a pair of letters representing an *element*; a *chemical formula* is a collection of symbols representing a *compound*. The formula of a compound is written by placing side by side the symbols of the elements which it contains, and attaching to these symbols, if necessary, figures which indicate the number of combining proportions of each element which are present in the compound.

Mercurous chloride contains one combining proportion of mercury, and one of chlorine; its formula is HgCl . Mercuric chloride contains one combining proportion of mercury and two of chlorine; its formula is HgCl_2 . If the following formulæ are compared with the composition of the compounds as given on p. 289, and with the combining weights of the elements if necessary, the meaning and use of the formulæ will become evident: Stannous chloride, SnCl_2 ; stannic chloride, SnCl_4 ; phosphorus trichloride, PCl_3 ; phosphorus pentachloride, PCl_5 ; cuprous oxide, Cu_2O ; cupric oxide, CuO ; cuprous chloride, Cu_2Cl_2 ; cupric chloride, CuCl_2 ; cuprous sulphide, Cu_2S ; cupric sulphide, CuS ; stannous oxide, SnO ; stannic oxide, SnO_2 ; stannous sulphide, SnS ; stannic sulphide, SnS_2 .

Formulæ, like symbols, have a quantitative as well as a qualitative meaning. HgCl does not merely mean that mercurous chloride is composed of mercury and chlorine; it stands for 235.4 parts of mercurous chloride, composed of 200 parts of mercury and 35.4 parts of chlorine. PCl_5 does not stand for any indefinite quantity of phosphorus pentachloride, but for exactly 208.0 parts of the pentachloride, consisting of 31 parts of phosphorus and 177.0 (35.4×5) parts of chlorine.

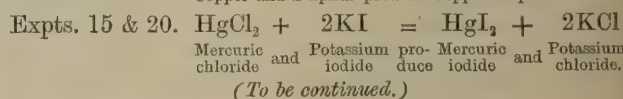
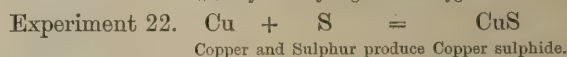
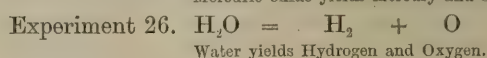
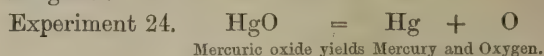
The symbols of the elements, whether used alone or combined together in formulæ, always represent a definite relative quantity of the element for which they stand—i.e., its combining weight or atomic weight.

Formulæ have also a further meaning. The formula of a compound always represents *one molecule* of the compound, and tells us how many atoms are contained in that molecule. HgCl represents one molecule of mercurous chloride, containing one atom of mercury and one atom of chlorine; HgCl_2 represents one molecule of mercuric chloride, containing one atom of mercury and two atoms of chlorine; AgNO_3 represents one molecule of silver nitrate, composed of one atom of silver, one atom of nitrogen, and three atoms of oxygen; $\text{K}_2\text{Cr}_2\text{O}_7$ represents one molecule of potassium dichromate, composed of two atoms of potassium, weighing 39.1 each, two atoms of chromium, weighing 52.3 each, and seven atoms of oxygen, weighing 16 each. The number obtained by adding together the weights of all the atoms in a molecule of any compound is termed the *molecular weight* of that compound.

Chemical Equations.—Symbols and formulæ can be used to represent chemical changes in a concise and very convenient manner.

A **CHEMICAL EQUATION** is a collection of symbols and formulæ representing a chemical change.

The symbols and formulæ of the substances which take part in the change are written on the left-hand side of the equation, and are connected by the sign +, which means "together with," or "brought in contact with," and the products of the change are written in a similar manner on the right-hand side, the two sets of formulæ being connected by the sign =, which in these cases means "yields" or "produces." The following equations, representing the changes which take place in some of the experiments which have already been performed, will make their use clear, and the meaning of the symbols and formulæ will now be intelligible:—



The Electric Light and Photography.—IV.

By T. C. HEPPWORTH, F.C.S.

A CONVENIENT form of dark-room lamp and battery combined is that shown at fig. 1. This apparatus is, I believe, of French origin, but can be bought in this country of numerous dealers through the wholesale house of Messrs. Perken, Son, and Rayment. The drawing must be looked upon as being merely diagrammatic, and many unimportant parts are omitted so that the illustration shall not be unnecessarily encumbered.

The apparatus consists of a mahogany box nine inches in height and six inches square, and its outer edges are described in the cut by dotted lines. To the lower part of the lid of this box are fixed the battery plates, consisting of nine sets of three each, each three being represented by two carbons with a zinc plate between them. These plates are all connected by strips of metal, one pair of carbons being joined up with the zinc plate of the next cell, and so on throughout the series. The cells, of which only one is shown in the drawing, consist of tall glass bottles which seem at first sight to be out of all proportion to the plates which dip into them. But the reason for this apparent disproportion is to provide an excessive amount of exciting solution so that the battery shall preserve its energy for a long time without the necessity of recharging. In all bichromate, as, indeed, in most other batteries the plates should remain in the exciting solution only during the time when the battery is at work. In the bottle form of bichromate cell, the zinc is lifted out of the solution by means of a rod, and in this way all electrical action is stopped. In the apparatus which we are now considering, the plates are not lifted from the solution, but the cells and their contents are made to recede from the plates. This is brought about by a very simple arrangement of parts. The glass cells stand upon an iron platform which measures a little less than the interior width of the box, so that it will slide up and down therein with ease. It is hung upon two strong brass rods, the tops of which are tapped and project through the lid of the box. Collars here engage the screw thread upon each, and by simply turning these screws between the thumbs and fingers of the two hands at the

same time, the platform and the cells are raised or lowered as may be wished. It will at once be seen that this plan not only serves to put the battery in and out of action, but gives control over the amount of current afforded. For it is obvious that if the plates are only partially immersed in the liquid contents of the cell, the amount of current afforded will be in proportion. In the drawing, and for the sake of clearness, only the edges of three sets of plates are shown, but it will be understood that the square form of containing box affords room for nine. The lamp, or incandescent bulb, is contained, as shown, in a metal casing—which is silver-plated within so as to have a good reflecting surface, and which is closed in front with a disc of ruby glass. The lamp is attached to the body of the box in such a way that it can be raised or lowered as may be desirable. It is of 5 candle-power, and, owing to the great

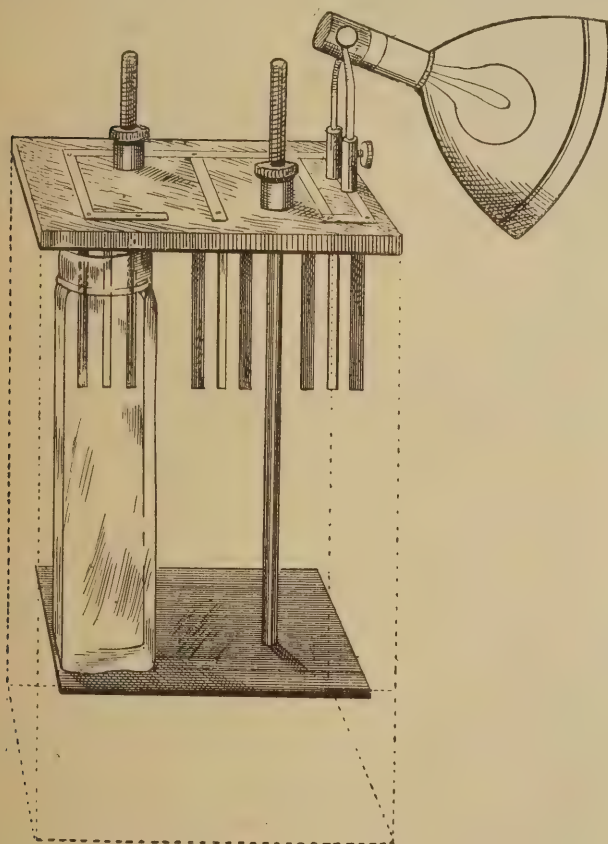


FIG. 1.

capacity of the cells, it will continue active without recharging for several hours. It would be by no means an expensive form of lamp to use for such occasional purposes as the changing or examination of plates, or for development if the number of plates to be treated is not very great. The expense of recharging is not much, for a pound of bichromate, costing about 8d., and a similar quantity of acid at about a quarter that price, will last for several charges. The trouble and time is the expensive part of the process, which prevents the use of such a lamp by busy folks, but for the occasional uses which have been already indicated, it certainly is valuable.

It is, perhaps, unnecessary to caution photographers about the poisonous quality of the bichromate salt. Carbon workers have long ago found out that some people are peculiarly susceptible to its influence, and that if they are careless in allowing a solution of it to touch their skin, and remain there, it occasions painful sores which are difficult

to heal. Others seem to be able to dabble their hands continually in the red solution without suffering any harm or inconvenience. This is an instance of the presence of pachydermatous individuals among us who never feel anything, and seem to escape all the common inconveniences of life. It may be noted that the acid bichromate solution need not be thrown away after use in the battery, for it is valuable for cleaning glass vessels, and a small quantity of it should be retained for this purpose.

In electrical matters, as in most other things, a cheap and simple arrangement of parts is often far more effective in action than one which is complex and costly. In battery cells which are made commercially there are generally brass terminals and binding screws with which to make the necessary connections. These are ornamental, convenient, and pleasant to use, but in a short time, with some descriptions of battery, and notably with the Bunsen or grove cells, the fumes from the acid employed quickly corrode the metal, and all contact points have to be kept clean by continual use of the file. If this is not attended to the imperfect contact caused by the corrosion raises the resistance of the battery to such an extent that more than half its effective power disappears.

A convenient and simple method of joining metal wires to carbon plates without any expensive fittings has lately been patented by an officer of the Royal Engineers. It is illustrated in fig. 2. A hole is first of all bored in the carbon plate—a by no means difficult operation with a drill. The tool makes much dust, as the material is ground away by it, and it must often be taken out of the hole during the progress of the work. It should be used dry—that is, without any kind of lubricant. When the hole is complete, a short piece of platinum wire is thrust through it, and then bent back upon itself, as shown in the cut. No. 24 standard wire gauge is a convenient thickness of metal to use, and as short a piece as possible should be employed, on account of expense, platinum having recently, in consequence of the greediness of photographers, gone up in price about 150 per cent. Platinum is the only metal which can be used in this particular manner, on account of its stability in the presence of all kinds of acid solutions.

(To be continued.)

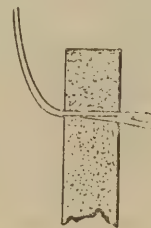


FIG. 2.

Photographic References.

BY MAJOR J. FORTUNÉ NOTT.

HAND-CAMERAS.

(Continued from page 376.)

A PHOTOGRAPHER who has previously confined his practical experience to the manipulation of the ordinary photographic apparatus, when first essaying to employ a hand-camera should carefully bear in mind certain distinctions that exist in the method of working, and understand fully how the difficulties that arise in consequence can be successfully overcome. In the first place, the camera having to be held in the hand, an element enters into the calculations for the duration of the exposure which if the apparatus is fixed to a stand does not exist, for the time during which it can be held steady by the operator may necessitate the speed of the shutter being accelerated considerably beyond the point that would otherwise be deemed sufficient. This feature of hand-camera work being a purely personal one, no rules can be given. Some people rejoice in the posses-

sion of very steady hands, while others have very much the reverse, others, again, with a phlegmatic temperament can be sure of remaining steady under exciting circumstances for the duration of a period which the owners of nervous organisations under similar conditions would find utterly beyond their ability. As a rule, it can be broadly stated that in hand-camera work it is always advisable to give as long an exposure as possible, and to rely upon the judicious employment of the stops for any correction in this matter that the rapidity of the plates being used may necessitate. Consequently, those who aim at working in an intelligent manner should, by a few simple experiments, acquire some information about the time they can hold the camera steady, so as to insure a sharp picture resulting. This time will, with the average man, vary between $\frac{1}{4}$ and $\frac{3}{4}$ of a second; with an exceptionally steady man it may attain to a second. This information having been obtained, the lowest speed of shutter possible while the camera is held in the hand is practically settled; its acceleration will, of course, be based upon the rapidity of movement, distance, and line of travel the quickest moving object within the limits to be embraced by the photograph may necessitate.

Intimately connected with this subject of exposure is another one of equal importance, namely, the regulation of the aperture at which the lens should be worked. This point again influences another one, determining the character of the plate suitable for the work, about which we shall have something to say a little later. By lessening the aperture of the lens an equivalent reduction of its power of illumination is created, this feature being the one for which provision has to be made in selecting the plate; but it also gives the lens an increased power in creating what is known as depth of focus. Now any addition to this quality in a lens, for it materially affects the sharpness and clearness of the picture at all points, is one that in hand-camera work is deemed of special importance, therefore the smallest stop that the sensitiveness of the plate will allow when the speed at which the shutter must be set is taken into account, should be the one ordinarily employed. Hence, also, it follows that the shutter should be set to work as slow as is compatible with the existing circumstances, for it allows the aperture of the lens to be proportionately diminished.

The importance of this method of work arises from the fact that in a hand-camera where no power of focussing on to a ground-glass screen exists, the focus has to be regulated by certain points being marked on a scale; and by guessing the distance between the camera and the principal object, the adjustment of the focus considered correct is made. Now, it requires a very practised eye to do this in even an approximately correct manner. In ordinary cases this adjustment has to be made in a happy-go-lucky fashion at some point between the two extremes when any deviation from the distance at which all objects are in focus has to be made. Now in this rough-and-ready manner of focussing, it can easily be understood that it is a great advantage to have a lens in which, within certain defined limits, no great variation of adjustment has to be made, or, in other words, one in which a considerable margin of latitude in this matter of accurately approximating distances can be taken without any appreciable want of sharpness being visible in the negative. Therefore, as the smaller the aperture of a lens, the greater the depth of focus, the regulation of the stops affects the ease with which any deviations in focus can be made in an ordinary hand-camera, for its tendency is to increase the range of distances at which all objects are simultaneously sharp. For instance, with a 5-inch focus lens, all objects are in focus beyond 21 yards with full aperture, when the focal centre of the lens is fixed 5 inches away from the plate. If, however, the lens be stopped

down to $f/16$, the limit at which all objects are in focus is reduced to 15 yards. When working with full aperture if it becomes necessary to get an object 15 yards away sharp, the lens must be racked out $\frac{1}{16}$ of an inch, i.e., $5\frac{1}{16}$ inches from the plate. The value of the stops in this connection is, therefore, apparent.

This difficulty in approximating the correct focus is also one of the reasons that lenses of short focus are generally employed on hand-cameras, for in other respects they are not by any means to be recommended. By embracing such wide angles they give distorted views, and they so materially diminish the size of objects situated a very short distance away that this feature alone would be enough to condemn them if they did not possess some element deemed of paramount importance. For instance, with a lens of 3-inch focus all objects are in focus beyond $8\frac{1}{2}$ yards, but with a lens of double that length, or, say, 6-inch focus, all objects have to be beyond 30 yards distant before the same advantage is secured.

With regard to this point the following tables may be useful. They are not calculated accurately to inches, but to convenient fractions of a yard, and are therefore sufficiently correct to act as a guide in selecting a lens with suitable focal length for individual requirements. They are compiled from "The Tables of Conjugate Foci," made by Mr. J. R. Gotz, a little pamphlet all photographers should possess.

Focal length of lens.	Distance in yards beyond which all objects are in focus.	Size of a man on the plate, 5ft. 9ins. in height, standing at the specified distance.	Size on plate of a head at the same distance.	By racking out the lens $\frac{1}{16}$ of an inch all objects become in focus between the following limits.	Size of man standing midway between the distances specified in the previous column.	Size of head in the same position.	By racking out the lens $\frac{1}{16}$ of an inch objects come into focus between the under-mentioned distances.	Size of man.
3 ins.	$8\frac{1}{2}$ yds.	$\frac{1}{16}$ of an in.	Approx. $\frac{1}{8}$	Yds. $3\frac{1}{2}$ to $6\frac{1}{2}$	Ins. $1\frac{1}{8}$	$\frac{1}{16}$	$1\frac{1}{2}$ to $2\frac{1}{2}$	Ins. $2\frac{1}{2}$
$3\frac{1}{2}$ "	$11\frac{1}{2}$ "	$\frac{1}{8}$ "	$\frac{1}{10}$	4 to $9\frac{1}{2}$	$1\frac{1}{2}$	$\frac{1}{8}$ apx.	$2\frac{1}{2}$ to 3	$2\frac{1}{8}$
4 "	$13\frac{1}{2}$ "	$\frac{5}{16}$ "	$\frac{1}{10}$	$4\frac{1}{2}$ to $11\frac{1}{2}$	$1\frac{1}{2}$	$\frac{1}{8}$	$3\frac{1}{2}$	$2\frac{1}{8}$
$4\frac{1}{2}$ "	15 "	$\frac{3}{8}$ "	$\frac{1}{10}$	5 to $12\frac{1}{2}$	1 in.	—	$3\frac{1}{2}$	$2\frac{1}{2}$
5 "	21 "	$\frac{7}{16}$ "	$\frac{1}{10}$	$8\frac{1}{2}$ to $16\frac{1}{2}$	$\frac{7}{8}$	—	$5\frac{1}{2}$ to 7	$1\frac{1}{2}$
$5\frac{1}{2}$ "	23 "	$\frac{1}{2}$ "	$\frac{1}{8}$	$9\frac{1}{2}$ to $18\frac{1}{2}$	$1\frac{1}{8}$	—	$6\frac{1}{2}$ to $7\frac{1}{2}$	$1\frac{1}{8}$
6 "	30 "	$\frac{5}{8}$ "	$\frac{1}{10}$	$13\frac{1}{2}$ to 25	$\frac{5}{8}$	—	$8\frac{1}{2}$ to 10	$1\frac{1}{2}$
$6\frac{1}{2}$ "	$32\frac{1}{2}$ "	$\frac{3}{4}$ "	$\frac{1}{10}$	$14\frac{1}{2}$ to $27\frac{1}{2}$	$\frac{5}{8}$	—	$7\frac{1}{2}$ to 11	$1\frac{1}{2}$
7 "	$46\frac{1}{2}$ "	$\frac{7}{8}$ "	—	$15\frac{1}{2}$ to $35\frac{1}{2}$	$\frac{7}{8}$	$\frac{1}{8}$	$11\frac{1}{2}$	$1\frac{1}{2}$

It will readily be seen at a glance by the foregoing tables that a man standing at a distance at which all objects commence to be in focus when a 3-inch lens is employed is $\frac{1}{16}$ of an inch upon the plate, while with a 7-inch lens he is only $\frac{1}{16}$ of an inch; but then with the former lens he need only be $8\frac{1}{2}$ yards away to be sharp at fixed focus as compared with nearly 47 yards in the one of longer range. If, however, the 7-inch focus lens be racked out to $7\frac{5}{16}$ inches from the plate, an object at a distance of $8\frac{1}{2}$ yards is brought into focus, and a man would be $1\frac{1}{2}$ inches in size upon the plate, which is nearly double that of the smaller lens. The distance, however, would have to be accurately gauged, and the focal length increased three-sixteenths of an inch exactly if the long-focus lens were used, whereas no such measurement is required with the 3-inch focus lens, for at the distance the man is standing, namely, $8\frac{1}{2}$ yards away, all objects are sharp when the lens is working at its fixed focus.

Mr. F. D. Bulmer.

We give in the following columns extracts from selected letters, which will give some idea of the extensive business conducted by Mr. Bulmer, and the system upon which he trades. It appears that he has been in business since 1886, and that as early as that date he pleaded the defence of infancy in all actions brought against him. We trust that the experiences hereafter set out, both by dealers and purchasers, will serve as a warning to our subscribers, at least, to give Mr. Bulmer a wide berth in future.

MR. ROBERT ABRAHAM.—It has been brought to my notice that a person named Bulmer, of Dewsbury, about whom there has of late been a correspondence in the *AMATEUR PHOTOGRAPHER*, is offering my specialities at a larger discount than I myself supply them. I may say that I have never knowingly supplied him with any goods whatever, and should most certainly not even allow him my usual trade and shippers' terms.

THE BRITANNIA WORKS CO.—We are glad to see that the *AMATEUR PHOTOGRAPHER* is brave enough to expose Mr. Bulmer's character, although we have been fortunate enough to have avoided any transactions with him, being forewarned as to what we might expect if we had done so. We have written him from the first that we shall be glad to execute any orders he may send us, *for cash*, and, of course, this never comes, and yet he sends us periodically a request couched in some apparently ingenuous form.

MESSRS. JOHN DONE AND CO.—We have done business with Mr. Bulmer, but having failed to get our money we threatened proceedings, to which he replied that he should plead infancy, and on our issuing execution summons, pleaded no effects.

MR. JONATHAN FALLOWFIELD.—When Bulmer ordered a Facile (and asked quotation for twelve), and gave me the address, Francis C. Pattison, 6, Montford Place, Kennington Green, I did not acknowledge or reply to his order, and when Pattison applied later on I replied saying my terms were "cash with order," and you will see the latter regularly makes use of your columns to offer all sorts of photographic goods. The system ought to be exposed, and you have it in your power to stop it, so far as the *AMATEUR PHOTOGRAPHER* is concerned, at any rate.

MESSRS. LANCASTER AND SON.—We are so glad the *AMATEUR PHOTOGRAPHER* has taken a firm stand and intend exposing Bulmer. We wish you would continue in your good work of annihilating trade parasites.

MESSRS. E. AND T. UNDERWOOD.—We notice in this week's *AMATEUR PHOTOGRAPHER* that you are going to make a report respecting F. D. Bulmer, and we herewith give you our experience of him. In 1886 we supplied him with goods, part of which he paid for, and the remainder of the account (about £8) we placed in our solicitors' hands for collection. They sued him, and ascertained that he was a minor, and nothing could be done. In April, 1888, a gentleman in London wrote to us saying he had ordered one of our cameras through him (Bulmer), and wanted to know the cause of the delay, as he had paid the money for it two months previously. We at once explained matters to our correspondent, and wrote to Bulmer, threatening to expose him. However, he sent the money back again, and promised to pay us. This he has not done, and the matter got overlooked. We communicated with the police respecting him in 1888, and they reported him as a minor, and regarded him as a *dangerous swindler*, from the number of complaints they had received respecting him. We always refuse to supply this class of trader, as there is usually some swindling in their offering such large discounts, and we warn people in a paragraph in our catalogue respecting them.

MESSRS. TAYLOR, TAYLOR, AND HOBSON.—We thank you very much for sending us Mr. Bulmer's estimate, which is the first we have seen of the kind. We beg to say that the lens referred to cannot be obtained from us at the terms named, that Mr. Bulmer has no business credit with us, and that we have already declined to do business with him. We shall be glad if you will inform your customers of this matter.

A LEADING LENS MAKER.—Some twelve months ago our attention was called to announcements by the person referred to, offering to retail our lenses at a reduction on our catalogue prices equal to the discount we would have allowed him as a

trader. An advertisement of this kind tells its own tale, and we could adopt no other course than to refuse to have dealings of any kind with him. Other manufacturers cannot fail to look upon such trading in the same light that we do, so that we anticipate it must soon die a natural death.

T. CRISP, JUN.—I am one of Mr. Bulmer's victims. I sent to him on December 1st, 1888, for Lancaster's photo materials, as follows:—Best leather case, 17s.; Lancaster's new stand, 10s. 6d.; case for stand, 3s.; compound focusser, 2s. 6d.; ebonite tweezers, 1s.; three quarter-plate metal slides, 7s. 6d. After writing to him a great number of times I received a camera case and tweezers, for which I had to pay 1s. carriage. Then after waiting about one month I received a stand for camera, for which I had to pay another shilling. Then about another month I received the three dark slides, the articles received being rubbish, not Lancaster's goods at all. The compound focusser and case for stand I have not received yet. I hope that you will be able to stop him from swindling anyone else.

MR. H. DAN.—Finding that you are about to publish information respecting F. D. Bulmer, I thought perhaps my experience of his dealings might add somewhat to the information you have already received. I advertised in your paper for a quarter-plate Lancaster's set, and among the replies I had one from this gentleman. Not being suited elsewhere, I wrote to him for estimate of better apparatus, and eventually ordered a Lancaster's quarter-plate set, at price quoted, and sent P. O. value 35s., about April 23rd, which was duly acknowledged, and saying that they hoped to be able to send it off that week. But no camera arrived. I then wrote asking cause of delay, and received post-card saying it was their agent's fault, and they would write and hurry them on. About another week elapsed, and I wrote them saying that if I did not receive camera at once I should cancel order. I received their reply, and again waited till the 8th, when I wrote them to return the cash at once, or I would proceed for recovery of same. They then had the impudence to send me P. O. O. value 35s., with no apology or explanation. I promptly acknowledged receipt on account, and said that it seemed that they were trying to obtain money by false pretences. They then sent me 1s. 6d. in stamps to balance, which I again acknowledged on account, and replied that as they had not forwarded me the full amount it more fully confirmed my idea respecting them. This last letter they have not replied to. They do not deny anything mentioned in my letters, but simply try to return less than the amount, thinking that one may not trouble about the balance.

MR. GEORGE LODGE—in response to an offer by Bulmer, on September 11th, 1888, to exchange a quarter-plate camera with lens for a half-plate camera—sent his camera to Bulmer, who, on October 3rd, wrote offering to allow £2 for it off a £6 half-plate camera, which offer Mr. Lodge accepted. The camera did not arrive, and late in December Mr. Lodge wrote asking for a Lancaster R.R. lens at £3. Bulmer sent one of his own (not a Lancaster's) at £2 10s. The balance of 10s. was paid, and then Bulmer tried, by repeated letters, to obtain 15s. more, saying the quarter-plate camera was only worth 25s.

MR. WATSON WORTH.—I am glad to see the warning in the *AMATEUR PHOTOGRAPHER* against the dishonourable dealings of Mr. F. D. Bulmer, of Dewsbury, as I have been also a victim. Last August I wished to buy a half-plate Lancaster Instantograph for a friend and pupil of mine, so I advertised in the *Exchange and Mart*, and in reply Mr. F. D. Bulmer offered to supply Lancaster's Instantograph for £3 10s., which I forwarded. Not receiving goods, I again wrote, and received in a few days one of his "Reliable Sets" (so called) with the enclosed note: "Our London agent informs us that it will be a week or so ere they can supply Lancaster's Instantograph. Thinking the delay would inconvenience you, I have sent one of my 'Reliable Sets,' which is only 6s. more than Lancaster's, and far superior." I immediately returned the same as not being according to order, and requested him to send Lancaster's, or return cash. He then promised to send camera on the following Wednesday, or cash. Not receiving either cash or goods, I wrote and cancelled the order, and requested immediate payment. He then replied, "Our accounts are only paid on 10th of the month." Cash not coming to hand, I communicated with a Dewsbury tradesman, also the police at Dewsbury, and found he was rather "shady," and not what he represented himself to be. I then demanded payment by return or I should take proceedings. I then received the money by instalments, less 2s. 6d., which he stated was for expenses incurred.

Now, after making a contract which he did not fulfil, and I paying carriage of goods not ordered, besides postage of several letters and telegrams, he charges 2s. 6d. for using my money several weeks without interest, besides putting me to the inconvenience.

MR. T. WATSON.—In April, 1888, I advertised in *Bazaar* for camera, which brought the first communication from Bulmer, dated April 27th. I did not reply to this till the following June, when I received a letter, dated June 26th, and sent forthwith P.O.O. for £4 for Marlow's half-plate camera. Having received no receipt for several days, I wrote at intervals, till I received post-card acknowledging P.O.O.; but as no further notice was taken, I wrote other letters, but failing to obtain any reply, I wrote the Chief Constable at Dewsbury, whose reply, dated August 3rd, I enclose. I then wrote Bulmer, telling him I had information to the effect that his calling was that of a swindler, etc., etc., and threatening legal proceedings. This had the desired effect. I got the camera, and afterwards a letter, demanding an apology for my accusation, etc., and stating he would have it if it cost £100. This and other letters I had from him I forwarded to the Chief Constable at Dewsbury, from whose letter you will see he has a good deal of information, which, no doubt, he would be glad to give you.

(Letter referred to.)

"This man is notorious to the police here. He makes a living by this very procedure. He has no shop, no place of business, and is still a minor. I have fifty letters similar to yours, but can get no one to undertake a prosecution. If you want to proceed, please apply to your police at Whitby for a warrant. You will observe he gives you no address but Dewsbury."

A SECRETARY of a prominent Society writes:—I observe a letter in your issue of the 16th ult., *re* the above-named. It is really quite time this *youth* were checked in his dealings. I had a small transaction with him some eighteen months ago, but could neither get my goods or money. Upon inquiry, I received the following letter from the Dewsbury police.

(Letter referred to.)

"In reply to your inquiry *re* the above-named person, I may say that he is well known to be a swindler in the photographic business. I have had innumerable inquiries from all parts of the kingdom and abroad, and he will, doubtless, continue his roguery until such time as his victims take action against him. I may add that he is a minor, under twenty-one years of age, and resides with his mother in a common dwelling-house."

A SECRETARY of another well-known Society, in his dealings with the above named, says he sent him a half-plate set in the early part of this year, which Bulmer offered to buy. The set, after some months, was recently returned, minus the stand, and with the name-plate removed from the camera and the name of F. D. Bulmer substituted.

A STUDENT of CHRIST COLLEGE, OXFORD, writes: My experience of Mr. Bulmer, of Dewsbury, is as follows: It is now three years since I dealt with him. His method of business was to advertise at a large discount. I wanted a half-plate wide-angle lens by Burr, so wrote to him. He wrote back saying he could let me have one for 55s., which he said was 5s. less than the real price of the lens; I did not find out for some time afterwards that the price of the lens was 50s. He also kept me waiting three months for a roll-holder which I ordered through him, inveigling me out of the sum of 13s.

AN AMATEUR FROM DEWSBURY writes: Having read the correspondence in your paper *re* F. D. Bulmer, and as none of your correspondents hail from this town, I therefore thought that I had better drop you a line regarding the said person, thinking that it would be acceptable to your readers. I may say that I should be very sorry to injure anyone, either in business or out, therefore I shall not say much, save that which ought to be known. I am assured he is not a member of the Dewsbury Photographic Society, nor has he ever been a member. His business tactics are pretty well known here, and on one occasion, if not more, if my memory serves me right, he has had to appear before the county court judge for obtaining goods and then refusing to pay for them. He then set up a plea of "infancy." Some of the dealers will know better than I do on that score. I called at his place some two years since, but found that he kept no stock,

save, perhaps, one camera, and that one, he said, was ordered. He has also advertised pretty frequently in the *Bazaar*, *Exchange* and *Mart*. Sometimes he would also advertise in his younger brother's name. The number of tricks he has performed are legion.

ANOTHER GENTLEMAN SAYS:—On May 6th, 1889, I sent an order to F. D. Bulmer for a quarter-plate camera set, *i.e.*, the "Paul Lange Camera," enclosing cheque for £13 7s. 8d. He replied, offering to send the pieces, not the camera fitted up, as I ordered by Messrs. Sharp and Hitchmough, at a greater reduction than as through that firm. This offer I refused, demanding the set as ordered in first instance. Letters were exchanged, and time went on, still I got no camera, nor would he return the money, and wanted to claim £2 10s. as expenses incurred. I had to take proceedings in the County Court, and he was ordered to refund the money, I think, at the rate of £1 per month. This is my experience of dealing with F. D. Bulmer. I had one or two appeals from some of his relations (I believe his wife and his father) begging me not to take proceedings, nevertheless they did not return my money.

ARTICLED CLERK TO A SOLICITOR:—Early in April I advertised in the AMATEUR PHOTOGRAPHER for a detective camera. I received an answer from Mr. Bulmer, of Dewsbury, offering me the camera I then wanted, "Rouch's Eureka," at 17½ per cent. discount. I had some communication with him, and he sent me advertisements of Swinden and Earp's camera, and on my asking its price offered it at £6 instead of £7, the London agent's price. In the same letter (which, unfortunately, I cannot lay my hands on at present, and which seems to be lost) he strongly advised my purchasing one of his own make, and saying that on my depositing the value of the two he would send them on a week's approval. I sent on or about the 21st of April the first halves of two £5 notes to him, and on getting their receipt, which promised immediate attention to my order, I sent the second halves. I named the next Thursday as the day on which I should like the cameras sent. Towards the end of April I went to the London agents for the Swinden and Earp's camera to ask them if they had ever received the order for it from Bulmer. They replied no. On the 1st of May I wrote Bulmer, telling him this, and asking him to explain it immediately. He replied on the 2nd, saying that he had ordered it from the makers, not the agents; also that he hoped to deliver the next week. I wrote again during the week, demanding it by the 12th of May. He answered saying he hoped to send it on the 12th. On the 16th I wrote again in reply to his letter of the 13th, in which he stated that he was writing to the makers to say that if they did not send him the camera by the Monday (19th), he should demand the return of his deposit with them. I wrote stating that as he had appointed the Monday as the limit of his patience, I fixed the next morning (Tuesday) as the limit of mine, and that if he did not send me a letter stating that he had received and forwarded on the cameras on the Monday, or returned my deposit of £10, I should put the matter in the hands of my solicitors. I attended the London agents of Messrs. Swinden and Earp on Monday, 19th May, and they read me a letter from Messrs. Swinden and Earp, in which they said Mr. Bulmer had applied for a camera, probably for me, about three weeks ago, and had sent money on deposit, which Messrs. S. and E. had appropriated in payment of an account owing from Mr. B. since Christmas last. On their applying for a further deposit before they would send the camera, Mr. B. sent half a £5 note and said he would send the other half on receipt of the camera. This Messrs. S. and C. refused, and retained the half note till their claim of a few shillings still owing from the old account had been satisfied. On the Monday morning I instructed my solicitors to write Mr. B. a letter, stating that unless the money or camera came to hand on the Tuesday, they had instructions to prosecute.

"In answer, Mrs. Bulmer, the mother, wrote promising that if camera did not arrive by next day she would send us a bank-note for £10, ending with the words, 'You may depend on this.' The next morning (20th May) we received from her a cheque for £10 7s. 1d. and a letter from her in which she said that the cheque was not to be cashed, but was to be retained by us until we received the camera simply as a matter of good faith. Of course, after her letter of the 20th May, we paid in the cheque, and to-day I hear it has been duly honoured. The firm has just written off to Mrs. Bulmer, informing her

what we have done, and enclosing a postal order for 7s. 1d., the balance on the cheque."

"GOLDSMITH POLISHER" writes:—You ask for correspondence and experience in respect to F. D. Bulmer. I once wrote for his estimate for three of Tylar's metal dark slides half-plate. I received no reply, and his advertisement read, "You can have it at one shilling per week delivered to address on receipt of first instalment." I sent postal order for one shilling. I received no reply. I sent another letter a few days after, and no notice taken, and I never received one of the letters back through the post. Being only a working man, I could not afford to lose time or money, so I let the thing drop.

"ANOTHER VICTIM" writes: In 1888 I had dealing with the above-named person. I advertised for a Ross lens 10 by 8. I sent him £7 5s. for the lens, which I was unable to get from him, and ultimately I received £7 from him, 5s. being deducted as expenses. I wrote demanding the 5s.; not receiving it, I placed the matter in the County Court, and got judgment against him, still he did not pay—his goods were then ordered to be seized for the amount. I then received a letter from the County Court saying, "in lodgings; no effects." From the foregoing particulars you will see he has been carrying on the same system your correspondent mentions for years.

"ONCE BIT" writes as follows:—Some twelve months ago I wrote to Mr. Bulmer for an article which he was advertising, enclosing stamps. Not hearing from him for more than a week, I wrote again, which brought forward a post-card, saying the article would be ready shortly. I waited about a month longer, then wrote again, and could not get an answer, nor have I to this day got the article which I paid for. The sooner such men are exposed the better.

BIRKENHEAD SOCIETY'S ANNUAL OUT-DOOR COMPETITION.

LAST Saturday the competitors in the Birkenhead Association's annual out-door competition were favoured with brilliant weather. Competitors were limited in operations to Bidston village and Hill, a quiet, rural, and picturesque spot three or four miles from Birkenhead. About fifty ladies and gentlemen attended the function, there being about thirty cameras "working," and nearly twenty candidates for the prize silver medal offered by the Society. Mrs. Webb was among the competitors. Mr. C. B. Reader, Honorary Secretary, had the arrangements in hand, discharging his duties with commendable courtesy and despatch. The rules of the competition were as under. Pictures, any size.

(1) All competing members must meet at Bidston Church gate at 3 p.m., and must then state to the Hon. Secretary their intention of competing, and the sizes they intend working.

(2) No competitor may carry more than six plates, and no more than six exposures may be made, and six results must be shown.

(3) No exposure may be made before the word is given, which will be at about 3.15 p.m.

(4) All the work, choice of subject, development, printing, toning, and mounting must be the sole work of the competitor.

(a) Any method of printing may be adopted. (b) A set need not be printed by the same method throughout. (c) No clouds may be printed in.

(5) The district to be limited to Bidston village and Hill.

(6) All work must be mounted and sent in to the Hon. Secretary, at 5, Cook Street, Liverpool, or "Mountside," Rowson Street, New Brighton, on or before the 10th June; must have no written or printed matter on the front, save title of picture, and only the usual distinguishing mark on the back.

Following the competitors about, it was noticeable that there was a consensus of opinion regarding the advisability and advantage of making the sets as varied and representative as possible. Hence, odd nooks, cattle, chicken and figure studies, farmyards, and foliage came in for much attention. Bidston Church was also extensively taken. The work occupied about three hours, and, from what could be learned, gave the operators general satisfaction. Among the competitors were Messrs. Tunstall, Stanistreet, Latimer, Wilkinson, Tomkinson, MacDonald, Bell, and other well-known good workers. Among the company were Messrs. Lange, Mayne, Sayce, Mackrell, Forrest, Kennedy, Brown, Watkin, the representative of the AMATEUR PHOTOGRAPHER, etc. The Liverpool, Birkenhead, Walton, and Wallasey Societies were represented.

Science Notes.

At the meeting of the Zoological Society on May 20th, Mr. Gambier Bolton exhibited a series of photographs, principally of animals living at the Society's Gardens and in Mr. Walter Rothschild's menagerie. Professor Flower exhibited a photograph of a nest of a hornbill, taken from a specimen in the Albany Museum, Grahamstown, South Africa, in which the female is shown "walled-in." It seems that a hole in a tree is selected in which the eggs are laid. The female bird then takes her seat upon them, and the male fills up the opening of the hole with clay; leaving just room enough for him to give a daily supply of food to the female, which he never omits to do.

Photographers who may wish to have a shot at Father Sol himself, will have a good opportunity on June 21st, at half-past nine in the morning, when about one-third of his disc will be obscured by the dark mass of the moon. The eclipse will be seen as an annular one in the north of Africa and in Asia; that is, the sun will there appear as a ring of light.

At the meeting of the Royal Microscopical Society on May 21st, Mr. J. Mayall, jun., referred to the donation by Mr. Andrew Pringle of a copy of his recently-published work on "Photomicrography." He said the volume embodied much practical information on the technical processes of photography, whilst the chapters devoted to the description of the various methods of adjusting the microscope and accessory apparatus required in the production of photo-micrographs bore everywhere traces of Mr. Nelson's co-operation, as frankly acknowledged by the author. It had struck him as somewhat strange that a work of this kind, addressed primarily to an American audience (for it was published by the Scovill and Adams Company, of New York), should contain so little reference to the employment of sunlight, the most powerful illumination at the disposal of the microscopist for photo-micrographic work, and which was so generally available in America. The use of the electric light was also dealt with very cursorily, though he was under the impression that great facilities were offered in America for its employment. The oxy-hydrogen light, however, was explained in considerable detail, and some excellent examples of photo-micrographs produced with it were given.

To slightly alter Dickens, we advise everyone who comes across any *lusus nature*—"When found, make a photograph of." Everybody connected with science is beginning to do this without our advice, though. Thus our dear friend across the sea—Dr. Wendell Holmes—writes in the June number of the *Atlantic*, "During the late session of the Medical Congress at Washington, my friend, Dr. Priestley, a distinguished London physician of the highest character and standing, showed me a photograph of a small boy, some three or four years old, who had a very respectable little tail, which would have passed muster on a pig, and would have made a frog or toad ashamed of himself." Wise Dr. Priestley! He knew that the photograph would be believed.

Film users must beware, when changing from one make of celluloid film to another, that they put the *right side* of the film to the front. Anthony's Climax films—a splendid make, of which we have used large numbers—are coated on the *matte* side. Now Carbutt's films are coated on the *polished* side of the celluloid. Hence the *uncoated* side of the Carbutt film is much like the *coated* side of Anthony's. Of course, the real difference is perceptible enough in good light; but in the obscure light of a strange dark-room we lately made the mistake of putting the uncoated side of some Carbutt films to the front. Notwithstanding this, the negatives are good, and halation is singularly absent. Perhaps as regards the latter point this plan might be a "wrinkle."

Another question—the present great difficulty with celluloid films is to find a varnish for them. In fact, there is no suitable varnish. Remedy: Expose *through* the film, and then print by placing the sensitised paper on the *uncoated* side of the negative. The celluloid is so thin, especially in the case of the rollable film, that there is no material loss of definition. Or, if there should be any slight loss, it might very probably be an improvement.

We are surprised not to have seen any allusion in print to the remarkable *colour* possessed by the thin "rollable" celluloid film of the Eastman Company. It reminds one of the sweetmeat sold as "pear-drops," and is therefore probably amyl acetate, which must be used in dissolving the tissue-paper out of which the celluloid is made.

F. G. S.

Photographic Exhibition at Drapers' Hall.

ANY one who was present at the opening ceremony on Friday evening last, at what may be justly called the Palace of the Drapers' Company, must pronounce the experiment of the photographic section of the London Chamber of Commerce a most complete success, for never before has any collection of photographs, and the apparatus for producing them, had such a princely home, and never before has there been such a brilliant inauguration. A crowd of some 800 to 900 well-dressed people responded to the invitation to be present at the opening soirée, and City dignitaries, with their chains of office around their necks, jostled the enthusiastic votaries of the black art; and, to judge by the names called out from the grand staircase, as new comers entered the drawing-room, titles were as plentiful as gooseberries in spring or blackberries in autumn. The fair sex were fully represented, and gay colours relieved the monotony of the regulation black. In one case the fair proportions of a beautiful arm were accentuated by an immense diamond, which formed the centre of an ornament for looping up the sleeve; and in an awe-inspired whisper one lady said to another, "Surely photography must be a very profitable business to make such things possible!"

The crowd was so great that it was impossible to see the pictures properly, and it was fortunate therefore that a band stationed in the gallery of the banqueting hall, provided an admirable programme of music, adding still further to the attractions of this gorgeous room, which has been devoted entirely to the exhibition of apparatus. In the library, after the opening ceremony, the Meister Glee Singers charmed all those fortunate enough to get into it with their perfect rendering of glees and part songs.

The Chairman of the Council of the London Chamber of Commerce, Sir Albert K. Rollit, must be complimented for his admirable opening address, which was as follows:—

"I must first express, on behalf of the Chamber of Commerce, our obligations to the Drapers' Company for allowing us to hold this Exhibition in this most suitable building. The Drapers' Company have done very much for the education of the people; they have taken a great interest in many public schools, they have expedited the work of the people in technical instruction in the metropolis, and now they have done much to aid a department of commerce. (Cheers.) I should next like to express our regret that many whom we had hoped would have been present are not here to-night. Those whom we have wished to see we must compare to the negatives of photography. I regret the absence of the Lord Mayor, who was to have opened the Exhibition; but, at any rate, we have Mr. Sheriff Knill, who thus represents the interest of the City of London in photography. (Cheers.) The results which we see to-night must have entailed much previous work and attention, and for this I am sure we must convey our hearty thanks. It is the desire of the Chamber of Commerce to do as much departmental work for the benefit of the City and the people generally as possible. The Chamber is continually starting new sections, the last one being the electrical section. It was felt by the Chamber that work would be best done in departments and by experts. We must congratulate the photographic section upon their work, for this is the first free photographic exhibition ever held—at any rate, in the City. You will, I think, concur in what I venture to express, that this is a great credit to the Chamber of Commerce, and that the Chamber is performing a great benefit to the City. The desire of the Chamber is to give publicity to these works of art, and to give an opportunity to the public of seeing them. The results of photography are undoubtedly great. If we look at the photographs which are being exhibited to-night, no one can fail to be struck with the excellence which is shown in them. In my opinion, they seem to excel all other exhibitions in one respect—I mean in the size. I think we may speak even of size in connection with photography as being an excellent point, as it indicates the gradual triumph over difficulties in the way of enlargement. We have also an opportunity of seeing a very great collection of scientific appliances in the highest perfection, both in their genius and in their workmanship. To my idea, many people neglect what I may call the education of shop windows. I recall the very best exhibition which I ever saw, the Scientific Loan Collection, at South Kensington, of 1876; and the advance made since then is remarkable. It is not about half a century

ago since photography became one of the practical arts, and yet since that time what marvellous advance has been made. It was that great genius, Wedgwood, who, in my opinion, seized some of those hints which were given by nature in relation to photography, and it is a satisfaction for us, as Englishmen, to think of that." Sir Albert then traced the various discoveries in the art down to the present time, when, as he declared, truth and beauty are allied in the art of photography. Continuing, Sir Albert said—"I hope it will be possible to seize and fix colour in relation to photography some day. In conclusion, depend upon it that the best way of advancing our art is by making it familiar to the minds of many. Photography has ministered to art; it has given us beauty, it has given us not only views, but artistic views, and it has exercised as well a great social influence. Should we have been in quite the same advanced stage of social progress if we had not had the ministering help of photography, which has given us the faces of our friends and aided us in every science?" (Loud applause.)

Mr. W. S. Bird then proposed a hearty vote of thanks to the Drapers' Company for the use of their hall, which was seconded by Mr. Watson, and carried by acclamation.

Mr. George Lawford (Past Master of the Company) replied briefly, regretting the absence of the Master of the Drapers' Company, and assuring the audience that it was their highest aim to help in all educational work in the City.

Mr. Alderman and Sheriff Knill expressed his pleasure at the Exhibition. He was quite sure that the Lord Mayor would have been delighted to have visited it, but as he had only just returned from Yorkshire, where he (Sir Henry Isaacs) had been recruiting his health, he had been unable to be present. He was glad, however, to say that his lordship was improved in health.

The formal proceedings then terminated, and the company dispersed, either to view the Exhibition, listen to the excellent musical programme, or partake of the refreshments provided in the courtyard.

On visiting the Exhibition by daylight the beautiful staircase was, if possible, more striking, and Edward III. and his Queen Philippa looked down from their niches on deft-fingered damsels who were busily engaged in fitting a new carpet. There was a striking fitness about this, for they introduced weaving into England: hence their honoured place in the home of the Drapers, and their stony gaze seemed to express approval, as much as to say, "Do all things well, even to the entertainment of photographers."

The first room entered is the drawing-room, and the pictures are well arranged on screens built out from the pilasters and forming a series of well-lit bays. Most of the well-known firms have taken entire screens, so that their work is, as is usually the case at exhibitions, not scattered. Naturally each one sends his best, and the collection as a whole is thoroughly representative of professional portrait photography in 1890. Most of the pictures are so well known, however, to all photographers, that very few call for special mention in these pages.

While portrait photography is thoroughly represented, one is struck, in walking through the rooms devoted to pictures, with the very small number of landscapes to be found in the exhibition. Of course, this is not to be wondered at when it is remembered that the works of amateurs are entirely absent; but it gives a monotony to the collection as a whole. There is one striking exception, however. Mr. Payne Jennings has sent an admirable series of landscapes printed in platinum, well selected and framed with extremely good taste. Indeed, this set of pictures should be well studied by amateurs, for there is much to be learned. "A Norfolk Barge on the Yare" is a tall, striking picture, and separates two frames of landscapes, one devoted to the Norfolk broads, and the other to scenes in Devonshire. Among the south country scenes there is a very taking picture of a little tidal harbour. The tide is out, and the wave-wrinkled sand supports a dark-hulled smack in the foreground. The little haven is part of a bay, for there are hills in the distance. There is a flood of light out at sea, and it streams down on the wet sand in the foreground, and the rough old jetty makes an admirable foil, giving force and contrast to the whole. In the Norfolk series there is a delicious little picture made out of very slender materials. A little haven, made this time of rushes and water weeds, but giving protection to a brood of wild ducks who evidently can distinguish between a camera and a gun, fo-

they appear quite unconcerned. In another picture it is only a rudely constructed house-boat occupied probably by one of the natives whose occupation is eel catching. An evening meal is possibly on the way, for the boat stands out in strong relief against a background of vaporous smoke, and trees are seen here and there shimmering through it.

On another screen there are examples of the Kallitype process. The prints are from the negatives of several well-known photographers, and their colour is of a fine engraving black. The centre one is by Whitlock, of Birmingham, and is a costume picture. A lady, white-wigged and bepatched, is gracefully lounging, and is gracefully playing with a fan. This is an admirable picture. A series of expression studies of Herkomer, as Fillipo in his poetic play, recently given at Bushey, are sent by Mr. Downer. These must attract attention, for some of them are very fine. Another picture by the same hand shows the fiddle maker in his home. The scene has been carefully built up, and is very complete, but it is another illustration showing how unreal all theatrical scenes look when taken by artificial light. The cross shadows behind the fiddle-maker make an ornamental B. Slingsby's group of at least a hundred children at a ball shows the utility of magnesium for special purposes. Another, of the Solar Club at dinner, will be interesting to a great many photographers, for a large number of well-known men will be easily recognised.

Window and Grove's screen is well arranged, as is also that of Elliott and Fry, and Downey. On the latter there is a very fine portrait of Professor Huxley. It is of large size, and is simple in treatment and admirable in pose. A lady in Court dress, on the same screen, is very fine in light and shade, but is it an ostrich fan or a fleecy white poodle that she is wheeling in the perambulator, or rather chair, for on closer examination it turns out to be the latter?

The Autotype Company make a very fine show of their various well-known productions. Autogravure and collotype are well represented, as well as the carbon process. A portion of the friese of the Parthenon, produced in bistre colour, is very fine indeed.

Vanderweyde shows two of the pictures from his triptych of the "Adoration of a Doll," and an admirable group, after Sir Joshua Reynolds. The picture is of large size, and contains the portraits of three ladies of distinction. An amusing incident was witnessed by the writer. Just before the guests assembled at the soirée, and while the finishing touches were being put to the show, a little boy rushed up, breathless, with three labels, bearing the names and titles of the ladies in question; on being asked how to place them, he said, the centre one was Lady —, but that he was not quite sure about the others. Mr. Vanderweyde had said the youngest and prettiest was Mrs. or Miss —. Here came a difficulty, for all were fair. A happy inspiration came to one of the party, and he said to boy, can you toss? The reply was, "Rather." A halfpenny went into the air and decided the difficulty. Here we had the choice of Paris, with a difference. Poor Paris! Why did he not adopt this plan, and spare himself the risk of having his eyes scratched out by Mesdames Juno and Minerva, for deciding in favour of Venus? The ladies in Vanderweyde's picture must feel the compliment if they should ever hear of the incident, for surely a great compliment was implied in the mode of decision.

The corridor is well lighted, and contains some very fine pictures, many of them well known, as, for instance, the large portrait of Stanley, by J. Thompson. There is very little touching upon it, and it is a grand picture. The smaller portraits are very perfect by the same hand, notably a girl in soft white dress, looking down at a picture-book. Friese Greene shows two very fine cloud studies, and there is a fine, upright picture of a yacht, by Morgan and Kidd. The shadows on the lazy, oily-looking ripples help to make a simple subject into a very effective one. Doulton shows a series of Tinworth's reliefs, by T. W. Edwards, and they show unusually well in this well-lighted gallery. The same may be said of the two very fine portraits of George Macdonald and Professor Blackie. Mr. Flather has sent some examples of what he calls dry point effects. In one there is a girl in costume, with tambourine. By his peculiar method a sketchy broken background has been worked in, and in consequence it is difficult to believe at first sight that it is not a copy of a picture instead of a portrait from life.

There is a splendid show of apparatus in the banquetting hall, and nearly all the best firms are represented, but we did not see anything to call for special notice. At the curved end of the

room Messrs. Marion and Co. make an immense display of their various specialities, and in the centre of the hall Watson's show of cameras and apparatus cannot fail to be seen.

In the corner of one of the rooms there is a splendid electrical lantern for photo-micrography made by Newton for the Santa Clara College, and in the square room, devoted also to apparatus, Mr. W. England shows an ingenious method for exhibiting examples of celuloid films. They are slipped into the openings of an album made for the purpose, and by holding the page at the proper angle the reflection from a blank page gives the light necessary to judge of the quality of the negatives.

As we have said before, most of the work shown—both apparatus and pictures—is well known, but never before has there been such a completeness about the general effect. The Drapers' Company have earned the thanks of photographers for their liberality, and the committee of the Photographic Section of the Chamber of Commerce, with Mr. W. Bird at their head as Chairman, may be congratulated on the success that must crown their efforts.

Notes from the Liverpool Centre.

(By our District Editor.)

ON Wednesday, last week, Mr. Paul Lange gave a practical demonstration in the Liverpool head-quarters on "Platinotype Printing," devoting special attention to the hot bath. There was an excellent attendance, and the demonstrator was closely and rather critically followed. Mr. Lange had two or three prints under printed, over printed, and correctly printed. These were put through, and afterwards a useful discussion took place. Several gentlemen contributed to the evening's work. Mr. J. L. Mackrell exhibited platinotype prints, copies of successful pictures and engravings, before spoken of for their softness of tone and general brilliancy. Silver prints also entered into the proceedings.

It has been arranged that members who wish to be present at the excursion to Rosset and Gresford, North Wales, on Saturday, 6th inst., shall go for whole or half day as convenient. The first train leaves Woodside station, Birkenhead, at 10.35 a.m., the last at 1.55 p.m. Mr. W. Tomkinson and Mr. Mackrell are the leaders for the day.

It will give many photographers very sincere pleasure to hear that Mr. Paul Lange has been approached to take 200 studies in Iceland, on the same lines as those of Norway, which have made the gifted President of the Liverpool Association more than known in the photographic world. The trip, which commences this month, will extend over three weeks, the British Yachting Company's fine little vessel, *Myrtle*, taking the party out, sailing from Liverpool for Reykjavik. Excursions will then be made to Thingvalla, the Geysers, Hecla, Krisuvik, and other places in the interior. Mr. Lange, "under canvas," both at sea and on shore, and with four Iceland ponies to pull him and his apparatus about, would be excellent studies in themselves. It is felt here that the commission is "another feather in Mr. Lange's cap," and a better man for the expedition could not be found.

The Birkenhead Society's Outdoor Competition last Saturday was satisfactory in the extreme. The actual number of competitors was twenty-two. Messrs. G. E. Thompson and R. Hartley, both connoisseurs in the art, are the judges.

An instructive evening is looked for at the Walton Society this week, when the Hand Camera Exhibition, promoted by the members, takes place. Messrs. Burn, Latimer, and Sharrock are exhibiting cameras of their own invention. These will be explained, and specimens of their work shown.

The ordinary meeting of the Liverpool Association held last Thursday, as detailed in the REPORTER, attracted a large gathering.

GROUND-GLASS FOR FOCUSING SCREENS.—Too often makers of cameras do not pay sufficient attention to the quality of the glass used for focussing screens. Messrs. S. and G. De Saules and Co., of Birmingham, have sent us a sample of their finely ground glass, and which they can supply at prices considerably under those charged for inferior glass. The sample before us has the very perfection of a surface for focussing upon. We unhesitatingly recommend camera makers to pay more attention to the quality of glass, and for this purpose advise them to give Messrs. De Saules a trial.

Holiday Resorts and Photographic Haunts.

ST. MARGARET'S BAY AS A HOLIDAY RESORT.

BY PERCY A. E. RICHARDS, F.C.S.

ST. MARGARET'S BAY is situated very nearly midway between Dover and Deal, and is about eighty miles distant from London. Martin Mill, the nearest railway station, can be reached by train from Victoria in three hours, and an omnibus plies between railway and bay at a sixpenny fare. The village of St. Margaret-at-Cliffe, as it is called, lies on a hill about half a mile from the bay, on the Martin Mill road, and forms a very pretty picture on approaching it from the sea, its old church of Norman architecture standing conspicuously in its midst. In both bay and village, visitors can procure accommodation; the former possessing the "Granville Arms," and the latter the "Cliffe Hotel" with a good boarding-house attached. Boating and bathing can be obtained in the bay, and sea trips may be made in sailing-boats to Dover and Deal, and also to the light-ship at the South end of the Goodwin Sands. The bay itself is deserving of several photographs, the view from the East Cliff being, perhaps, the best. The village also is worth "taking" from various points of view besides the one already mentioned. One might recommend the view from the top of the hill on the Martin Mill Road, and that from the northern end of the village street. The best view of the church is from the field on the west side.

The great attraction of St. Margaret's is that besides possessing the advantages of a quiet seaside village, country walks can be taken in nearly every direction round it, most of them full of interest to the amateur photographer. The following are perhaps a few of the best:

Leaving the village by the Martin Mill Road, turn to the left on reaching the cottages at the foot of the hill and cross the fields by the footpath until you reach the high road running from Dover to Deal. Cross this, and, turning into the lane running at right angles to it, you will at length reach the village of East Langdon. This possesses, in addition to a quaint old church, many pretty bits worth photographing. From this village a very pretty path takes you across fields and by trees to Martin, in which several good views may be taken. Thence the return journey can be made, passing Martin Mill on the right hand, through fields to Oxney Bottom and thence to St. Margaret's by road (four miles).

Another walk might be made in the direction of Kingsdown, starting by the road leading past the "Red Lion" and crossing the fields at the bottom of the slope, until you reach the coast-guard station. Then entering the village along the seashore and climbing the cliffs by the road to Ringwold you will pass the church, sheltered by trees, lying to the right of the road. The return may be made through the fields to the left and then along the top of the cliffs past Earl Granville's shooting lodge; or, if preferred and tide will permit, along the sea-shore. (Distance six miles.)

An interesting walk may be made to Walmer by taking to the fields at the stile on the left hand after passing the "Red Lion," and following the footpath past the Granville Farm until you reach the high road to Deal. This takes you past Ringwold, a very picturesque village, direct to Walmer. The return may be made by rail from Walmer or Deal station, or on foot, along the sands to Kingsdown, and thence to St. Margaret's. (Distance one way, four and a half miles.)

In walking over to Dover I would recommend going by the road running through West Cliffe village, until the Deal to Dover road is reached, and then following the latter to Dover past the Castle and down the hill. In returning, follow the path which leads you through a tunnel up to the top of the cliffs, where another path will take you along their summit past the Cornhill Coastguard Station and the South Foreland lighthouses to St. Margaret's Bay. The view from the top of these cliffs on a fine clear day is splendid, the coast of France being distinctly visible, and the sea between covered with ships of every kind.

NORTH MIDDLESEX PHOTOGRAPHIC CLUB.—On Monday next, June 9th, Mr. G. J. Clarke will give a lecture on "Photographic Optics."

Register of Dark-Rooms, 1890.

THE following "Dark-Rooms" have been placed at our disposal.

We class them in four divisions, *i.e.*, *a* amateur, *d* dealer or professional, *h* hotel, and *s* photographic society.

In our letter of introduction full particulars are given as to owner, address, charges (if any); plates, chemicals, etc., kept by dealers; terms for temporary membership of societies; hotels; distance from station, etc., etc.

Every application for letter of introduction must be accompanied by SIX PENNY STAMPS. The owner of "Dark-Room" will be advised by same post as the applicant. The envelopes should bear the endorsement DARK-ROOMS.

<i>d</i> Aberdeen	<i>d</i> Chester	<i>a</i> Four Ashes, near Enville
<i>d</i> Aberystwith	<i>d</i> Chester	<i>a</i> Frodsham
<i>d</i> Addingham	<i>d</i> Chesterfield	
<i>d</i> Amble	<i>a</i> Chipping Sod- bury	<i>a</i> Galashiels, N.B.
<i>d</i> Andover	<i>a</i> Cinderford	<i>h</i> Giant's Causeway Ireland
<i>a</i> Aylesbury	<i>d</i> Cirencester	<i>d</i> Glasgow
<i>d</i> Barmouth	<i>h</i> Cirencester	<i>d</i> Glasgow
<i>a</i> Barnsley	<i>d</i> Clacton-on-Sea	<i>s</i> Glasgow
<i>d</i> Barnstaple	<i>s</i> Cleckheaton	<i>d</i> Gloucester
<i>d</i> Bath	<i>d</i> Clevedon	<i>d</i> Gorleston
<i>s</i> Bath	<i>d</i> Clifton	<i>d</i> Gorleston
<i>h</i> Beaconsfield	<i>a</i> Clitheroe	<i>a</i> Goring
<i>a</i> Bedford	<i>d</i> Colchester	<i>a</i> Gravesend
<i>d</i> Belfast	<i>d</i> Colchester	<i>d</i> Great Yarmouth
<i>s</i> Belfast	<i>h</i> Colnbrook	
<i>d</i> Belper	<i>d</i> Colwyn Bay	
<i>d</i> Bergen, Norway	<i>a</i> Coniston	
<i>d</i> Berlin, Germany	<i>d</i> Crewe	<i>a</i> Halifax
<i>h</i> Bex, Switzerland	<i>s</i> Crewe	<i>d</i> Handsworth
<i>d</i> Bexhill-on-Sea	<i>d</i> Crewkerne	<i>a</i> Hanley
<i>d</i> Birchington-on- Sea	<i>d</i> Croydon	<i>d</i> Hanley
<i>a</i> Birmingham		<i>d</i> Harrogate
<i>d</i> Birmingham	<i>a</i> Dalton-in-Fur- ness	<i>d</i> Hastings
<i>d</i> Birmingham	<i>d</i> Darlington	<i>h</i> Hastings
<i>s</i> Birmingham	<i>d</i> Darlington	<i>s</i> Havant
<i>d</i> Blackburn, Lancs.	<i>h</i> Dartmouth	<i>d</i> Hereford
<i>h</i> Bodiam	<i>d</i> Derby	<i>d</i> Herne Bay
<i>d</i> Bodmin	<i>a</i> Devizes	<i>d</i> Hexham
<i>h</i> Bonar Bridge	<i>h</i> Dingwall, N.B.	<i>h</i> Holbeach
<i>h</i> Boro' Bridge	<i>a</i> Doncaster	<i>d</i> Huddersfield
<i>d</i> Bournemouth	<i>d</i> Douglas, Isle of Man	<i>a</i> Hull
<i>d</i> Bournemouth	<i>a</i> Douglas, Isle of Man	<i>d</i> Hull
<i>d</i> Bradford		<i>d</i> Ilfracombe
<i>d</i> Bradford	<i>d</i> Dover	<i>d</i> Ipswich
<i>d</i> Bradford	<i>d</i> Dover	<i>s</i> Ipswich
<i>d</i> Bramley, near Leeds	<i>d</i> Dublin	
<i>h</i> Brechin, N.B.	<i>d</i> Dublin	<i>d</i> Jarrow
<i>d</i> Brechin, N.B.	<i>d</i> Dublin	<i>d</i> Jersey
<i>d</i> Bridlington Quay	<i>h</i> Dublin	
<i>d</i> Bridlington Quay	<i>h</i> Dunblane, N.B.	<i>d</i> Keighley
<i>h</i> Brigg	<i>d</i> Dundee	<i>d</i> Keighley
<i>d</i> Brighton, Hove	<i>s</i> Dundee	<i>s</i> Keighley
<i>h</i> Brighton	<i>a</i> Dungarvan	<i>s</i> Kendal
<i>d</i> Brighton	<i>a</i> Duns	<i>a</i> Kimberley
<i>d</i> Bristol	<i>d</i> Durham	<i>d</i> King's Lynn
<i>d</i> Bristol		<i>d</i> Kingsland, N.E.
<i>d</i> Bristol	<i>h</i> East Grinstead	<i>a</i> Kingstown, Dublin
<i>d</i> Bristol	<i>h</i> Ebbw Vale	
<i>h</i> Broadway, Worcester	<i>d</i> Edinburgh	<i>d</i> Lancaster
<i>d</i> Bromley	<i>d</i> Edinburgh	<i>d</i> Lancaster
<i>h</i> Brough	<i>d</i> Edinburgh	<i>d</i> Lancaster
<i>s</i> Burnley	<i>d</i> Edinburgh	<i>d</i> Larne
<i>d</i> Burslem	<i>s</i> Egremont	<i>d</i> Leamington
	<i>a</i> Enfield Town	<i>h</i> Ledbury
<i>a</i> Cadiz, Spain	<i>a</i> Evesham	<i>d</i> Leeds
<i>h</i> Callender, N.B.	<i>d</i> Evesham	<i>d</i> Leeds
<i>h</i> Camborne	<i>d</i> Exeter	<i>d</i> Leeds
<i>h</i> Cambridge		<i>a</i> Leeds
<i>h</i> Cambridge	<i>s</i> Falkirk	<i>d</i> Leicester
<i>h</i> Capel-Curig, N.W.	<i>d</i> Falmouth	<i>d</i> Leicester
<i>a</i> Chalfont St. Peter	<i>d</i> Faversham	<i>d</i> Leicester
<i>d</i> Cheltenham	<i>d</i> Felixstowe	<i>a</i> Leicester
<i>d</i> Cheltenham	<i>d</i> Finchley	<i>a</i> Leicester
<i>d</i> Chepstow	<i>h</i> Fochabers, N.B.	<i>a</i> Leicester
	<i>d</i> Folkestone	<i>a</i> Lenzie, N.B.

NOTE.—*a* amateur; *d* dealer or professional; *h* hotel; *s* society.

<i>d</i> Leytonstone, Essex	<i>d</i> Newport (Mon.)	<i>a</i> Southport
<i>d</i> Lincoln	<i>a</i> Niton, Isle of Wight	<i>d</i> Southsea
<i>d</i> Liverpool	<i>d</i> Norwich	<i>s</i> Southsea
<i>d</i> Liverpool	<i>d</i> Nottingham	<i>a</i> Stamford
<i>s</i> Liverpool	<i>d</i> Nottingham	<i>a</i> Steyning
<i>d</i> Llandudno	<i>a</i> Northallerton	<i>d</i> Stockton-on-Tees
<i>d</i> Llandlloes		<i>a</i> Stoney Stratford
<i>h</i> London, Aldersgate, E.C.	<i>a</i> Oban	<i>a</i> Stourbridge
<i>a</i> London, Bloomsbury	<i>s</i> Oldham	<i>d</i> Stourbridge
<i>d</i> London, Borough S.E.	<i>a</i> Oxford	<i>d</i> Stratford-on-Avon
<i>a</i> London, Chelsea	<i>h</i> Paignton	<i>h</i> Stratford-on-Avon
<i>d</i> London, Fenchurch Street, E.C.	<i>h</i> Paisley, N.B.	<i>d</i> Stroud
<i>d</i> London, Fleet street, E.C.	<i>d</i> Penrith	<i>h</i> Sudbury, Suffolk
<i>d</i> London, Highgate	<i>d</i> Penzance	<i>d</i> Sunderland
<i>a</i> London, Kingsland, N.E.	<i>d</i> Pershore	<i>h</i> Sutton Bridge
<i>d</i> London, London Bridge	<i>a</i> Perth	<i>d</i> Swindon
<i>d</i> London, New Cross	<i>h</i> Poole	<i>d</i> Taunton
<i>d</i> London, Walworth Road, S.E.	<i>h</i> Port Erin, Isle of Man	<i>a</i> Tavistock
<i>a</i> Long Eaton	<i>d</i> Preston	<i>a</i> Thornton Dale, nr. Pickering
<i>h</i> Long Melford	<i>h</i> Prince's Risboro'	<i>h</i> Thorpe
<i>d</i> Loughborough	<i>d</i> Reading	<i>h</i> Tintern Abbey
<i>a</i> Louth	<i>h</i> Redcar	<i>d</i> Todmorden
<i>a</i> Ludlow	<i>d</i> Redditch	<i>d</i> Torquay
<i>d</i> Lynn	<i>d</i> Rhayader	<i>d</i> Torquay
<i>a</i> Lythe, Whitby	<i>d</i> Richmond, Surrey	<i>d</i> Torquay
	<i>a</i> Ringwood, Hants	<i>h</i> Tring
	<i>d</i> Rochdale	<i>d</i> Tunbridge Wells
	<i>a</i> Rodley, near Leeds	<i>s</i> Uttoxeter
	<i>a</i> Romford	<i>a</i> Vienna
	<i>d</i> Royston	
	<i>d</i> Ryde, Isle of Wight	<i>h</i> Wadebridge
	<i>h</i> Ryde	<i>d</i> Wakefield
		<i>h</i> Warwick
	<i>a</i> St. Agnes	<i>a</i> Waterford
	<i>h</i> St. Asaph	<i>d</i> Waterford
	<i>d</i> St. Bees	<i>a</i> Wellington, Salop
	<i>a</i> St. Helens	<i>s</i> West Hartlepool
	<i>d</i> St. Heliers	<i>d</i> Weston-super-Mare
	<i>a</i> St. Ives	<i>d</i> Weston-super-Mare
	<i>d</i> St. Leonards	<i>h</i> Wetwang, York
	<i>h</i> St. Mellons	<i>d</i> Weymouth
	<i>h</i> St. Neots	<i>d</i> Whitby
	<i>d</i> Sandgate	<i>d</i> Whitby
	<i>d</i> Sandown, Isle of Wight	<i>d</i> Wimbledon
	<i>a</i> Scarborough	<i>h</i> Windsor
	<i>d</i> Scarborough	<i>d</i> Windsor and Eton
	<i>d</i> Scarborough	<i>d</i> Wisbech
	<i>a</i> Shaftesbury	<i>a</i> Wolverhampton
	<i>d</i> Shanklin, Isle of Wight	<i>a</i> Worcester
	<i>a</i> Sheffield	<i>h</i> Worthing
	<i>d</i> Sheffield	<i>d</i> Worthing
	<i>d</i> Sheffield	
	<i>h</i> Shepton Mallet	<i>a</i> Yarm
	<i>d</i> Shrewsbury	<i>s</i> York
	<i>h</i> Sleaford	<i>d</i> York
	<i>h</i> Southampton	<i>a</i> York
	<i>d</i> Southampton	<i>d</i> Youghal
	<i>h</i> Southend-on-Sea	

Societies' Meetings.

NOTE.—In this column the Editor can, of necessity, only give a brief summary of the proceedings. The PHOTOGRAPHIC SOCIETIES' REPORTER was established to report the transactions of Societies, and the Editor will be glad to receive reports for insertion as early as possible after the meetings have been held, and at the latest before the 24th of each month.

BELFAST Y.M.C.A. CAMERA CLUB.—The usual monthly meeting was held in the Lecture Hall on the 28th ult. The chair was occupied by Mr. Hamilton M'Cleery. The Chairman directed the members' attention to the Enlargements kindly lent by the AMATEUR PHOTOGRAPHER, which were tastefully arranged round the walls. After spending considerable time inspecting the enlargements, the meeting turned its attention to arranging a proper code of rules to regulate the monthly competition, and an extension of time was given for the present month. Votes of thanks closed the meeting.

BRIXTON AND CLAPHAM CAMERA CLUB.—On the 30th ult an informal meeting was held, being mainly devoted to discussing arrangements for preparing slides for exchange with the Toronto Amateur Photographic Association. Prints from negatives taken on recent excursions were shown, and samples of Powell's compressed developoids were distributed. These were thought to be well adapted to the needs of the tourist who wanted a portable developer.

DUNKINFIELD PHOT. SOC.—The following officers have been elected for the ensuing year: President, W. H. Shirley; Vice-Presidents, J. W. Hadfield, T. Glazebrook, W. Greenwood; Committee, S. T. Ainsworth, W. Chadwick, Dr. Hamilton, B. Hall, W. Jenkinson, J. Leech; Hon. Treasurer, J. Winterbottom; Hon. Secretary, T. Borse. The ordinary monthly meeting was held on the 27th May, the President in the chair. The President in his address referred to the desirability of the members' regular attendance at the society's meetings, and gave several timely hints with reference to the avoidance of certain common mistakes when in the field. A very successful demonstration on the hot platinotype process was given by Dr. Hamilton. Mr. W. Jenkinson presented to the society a capital photograph of the President mounted on opaline, and was awarded a hearty vote of thanks for his present.

ENFIELD CAMERA CLUB.—A meeting to consider the desirability of forming a camera club for Enfield and district was held on the 29th ult. Mr. James Dudin was voted to the chair. In the course of conversation it was mentioned that there was no photographic association in the more northern of the suburbs nearer than Stoke Newington and Hornsey Road, and the opinion was expressed that there were a sufficient number of amateur and other photographers in the locality to form a strong and useful society. A number of letters from those willing to join such a club if one were formed were read, and some discussion as to its objects and the extent of its operations took place. Eventually it was resolved to form a society to be called the Enfield Camera Club. It was agreed to admit ladies and professional photographers to membership. Mr. D. G. Pinkney was asked to accept the Presidency, and Mr. J. Dudin the post of Hon. Secretary *pro tem*.

HOLBORN CAMERA CLUB.—An ordinary meeting was held on the 30th ult. Mr. E. Dunmore was elected an honorary member, and Mr. G. A. S. Robinson was proposed as a member. The following questions were then read from the question box:—The sensitometer number of the Phoenix plates? This the Secretary promised to find out from the makers.—A good hydroquinone developer? The Ilford formula, which is as follows, was strongly recommended:—Hydroquinone, 160 grs.; sodium sulphite, 2 ozs.; bromide potassium, 30 grs.; water, to 20 ozs. Sodium hydrate, 100 grs.; water, 20 ozs.; and using equal parts of each.—The best way of keeping hydroquinone in solution or crystals? Decidedly in deep blue or yellow glass bottles.—A remedy for green fog? Soak in solution of bichromate potash, and thorough washing afterwards in water.

LEITH AM. PHOT. ASSO.—The usual monthly meeting was held on the 27th ult., Mr. T. W. Dewar presiding. Mr. John Pourie read a paper entitled "Practical Hints on Little Matters," in which he treated of mounting, spotting, etc. A discussion followed the reading of the paper. The Secretary exhibited and explained various novelties, including a special rectilinear lens

CORRECTION.—Mr. H. H. Williams writes:—"Will you kindly correct an error in the 'Liverpool Notes' in your issue of the 23rd ult.? I certainly did not say the toning bath should be acid, but slightly alkaline. A little bicarbonate of soda, I said, was useful to rub on the red spots that sometimes appear while toning."

MESSRS. PERCY LUND AND CO., Bradford, have sent us specimens of their photographers' stationery, price lists, cards, material for background, etc., and prove that they are able to supply all requirements; they also send a bottle of "water-resisting varnish." The chief object of this varnish, or substratum, as the makers are pleased to call it, is to act as a first coating, afterwards to be supplemented by a hard-drying negative varnish. It is claimed that by its use the film will be made impermeable to water, entirely resist the action of damp, and prevent stains from silver printing.

for detective cameras, the Acme photographic dish, Samuel's patent hand-camera, Wormald's lantern masks, etc.

SHEFFIELD CAMERA CLUB.—The usual monthly meeting was held on Wednesday, May 28th, when Dr. Merton read a paper entitled "Negatives," dealing with the subject from the manufacture and different stages down to the finished negative. The lecture proved to be both interesting and instructive. After describing the difference between the positive and the negative, the lecturer dwelt upon the troubles owing to defective coating, packing, etc., the action produced by developers, illustrating his remarks by a considerable number of negatives.

PHOTOGRAPHERS' BENEVOLENT ASSOCIATION: AN APPEAL.—The Chairman of Committee asks us to insert the following: At the annual meeting the functions of the Association were so largely extended, by enabling the Committee to deal with any well-authenticated cases of distress brought to their notice, that we are anticipating a considerable increase in the number of calls

on our limited funds. In fact, the grants already made this year largely exceed the average. Under the new rules contributions of former subscribers to the funds to the extent of £250 have been set aside as a nucleus around which to form an annuity fund, and this sum cannot be drawn upon for the purpose of granting temporary relief. I wish to impress on your readers the fact that this is the only charity which exists with the object of assisting persons connected with photography who are in necessitous circumstances arising from misfortune; and many who have been reduced to this necessity, including more than one name once distinguished in the profession, could testify with gratitude to welcome aid received from the P. B. A. in the time of need. The minimum subscription has been fixed at 2s. 6d., and I appeal to the benevolence of your readers to induce them, if I can, to subscribe to the funds according to their ability, with the confident assurance that the Committee will deal with any money entrusted to them with discretion and economy. Subscriptions and donations will be thankfully acknowledged, and a copy of the rules forwarded by the Hon. Secretary, Mr. H. J. Beasley, 65 and 66, Chancery Lane, W.C.

To Correspondents.

THE insertion of **QUERIES** and **ANSWERS** is attended with much labour, and it is requested that the questions asked and the answers given shall be short and to the point. No charge is made.

All communications for these columns are to be addressed to **The Editor, "Amateur Photographer," 1, Creed Lane, Ludgate Hill, London, E.C.**

RULES.

1. Write clearly and distinctly on one side of the paper only.
2. Write each Query or Answer on a separate sheet of paper.
3. Write the name and address legibly on the back of each communication, and sign all Queries and Answers with name or *nom de plume*.
4. All matters for these columns **MUST** be received by **TUESDAY MORNING'S POST**.
5. The Editor does not undertake to answer questions by post.
6. In answering Queries, correspondents are requested to mention, in every instance, the *number and full title of the query* referred to.

QUERIES.

3839. **Lizard.**—Is there a dark-room at the Lizard where changing plates and developing can be done, and if not where is the nearest place where there is a dark-room.—F. A. R.

3870. **Toning Bath.**—Will any reader kindly inform me as to quantities of a toning bath, which contains following: Solution of gold, tungsate of soda, water?—LEO.

3871. **Weymouth.**—Can any reader inform me as to any "choice bits" round about or in Weymouth?—LEO.

3872. **Shutter.**—What rate does the Thornton-Pickard shutter work at, the fastest and slowest instantaneous, and are Ilford rapid plates, white label, quick enough for the quickest exposures, such as a cricket match?—B. J.

3873. **Glass.**—What is meant by squeegeeing on talced glass to give a polished surface?—B. J.

3874. **Yorkshire.**—I intend to spend about ten days in Yorkshire, visiting Ripon, Helmsley, and Leyburn. Would any of your readers kindly tell me the best points of interest round about the above places, and what permissions are required? as I understand there are several ruined abbeys and castles. Also which are the best places to put up at? and whether there are any dark-rooms in each of the above-named places. As I have not much time to spare, before I go, and as the answer might take up a deal of space in your paper, I shall be much obliged if any one will answer me direct.—JAMES SHAW, 5 and 7, Great Ancoats Street, Manchester.

3875. **Hastings.**—Can any reader kindly inform me of a dark-room, that I might use on payment or otherwise, at Hastings, as near the pier as possible? I should only require it for changing plates, at various times between June 23rd and July 7th.—PELICAN.

3876. **Lowestoft.**—Will someone kindly tell me

where I can obtain Ilford red label plates at Lowestoft.—PLATO.

3877. **Toning Bath.**—I find that after using my toning bath once, the gold is precipitated in the form of a black powder. Can anyone give the reason of this, and also the remedy? The solution I use is made up as follows:—

Chloride of gold	...	...	...	1 gr.
Acetate of soda	...	...	...	30 grs.
Water	...	...	...	8 ozs.

C. H. T.

3878. **Eclipse of the Sun.**—Would some reader kindly give me full particulars for photographing eclipse of the sun this month. My camera is Lancaster's half-plate 1888 Instantograph. Is it possible to take it without a telescope, as the only one I have is about 18 inches long. Any details about exposure and plate will be thankfully received by MAX BELLORS.

3879. **Enlarging and Enlargements.**—Can any brother amateur tell me, firstly, if it would be possible to enlarge by daylight with Lancaster's half-plate Instantograph and lens, as sent out. How far should the lens be away from the paper, to enlarge to 15 by 12? Secondly, could I enlarge on ordinary sensitised paper, what toning bath should be used, and about how long should I expose. Thirdly, should I have to make a hole in the double dark slide or not? Fourthly, could I use the Alpha paper developer for bromide paper.—MCCC.

3880. **Quickest Dry Plates.**—Which are the best and quickest dry plates for instantaneous shutter work? Have tried Ilford special rapid, and Thomas's T.C. extra rapid. Will any reader give me their opinion?—BLUE RIBBON.

3881. **Isochromatic Plates.**—I have seen Edwards' Isochromatic plates advertised, but no price is named; what are the prices, and how are they for speed?—BLUE RIBBON.

3882. **Residues.**—How can I get the silver from trimmings of untuned silver prints, and should I be able to get the silver from paper blackened by exposure?—TYRO.

3883. **Photo-Micrography. Plates and Light.**—I should be obliged if you would kindly inform me what are the best plates to use for photographing rock and botanical sections, also the best light to use. I have been using Ilford slow and American celluloid plates for some time, but fail to get satisfactory definition. The light I usually employ is a paraffin lamp with a circular wick, a little camphor thrown into the oil, and the exposure about 35 minutes. Some of the negatives are tolerable, but none show the sharpness of detail I would wish.—PHOTO-MICROGRAPHY.

3884. **Brittany.**—I should be glad of information on the following points. I propose to do a tour through Brittany this summer with a hand-camera, on a safety. I wish to know (1) if I shall have to pay any import duty on either machine or camera, or (2) whether I must apply to anybody high in authority for leave to take photographs? (3) Could you give me any hints as to any particularly pretty spots worth a visit? I have already spent six months there, and have visited among other places Morlaix, Guimileau, Le Favu, Chateaulin, Landevenec, Hauvee, Rumengol, Huelgoat, St. Michael (mountain). I should like to revisit some of these places again, and if your readers know of any particularly charming places I should be glad to hear of same.—JOHN TERRELL.

QUERIES UNANSWERED.

Mar. 7th.—Nos. 3528, 3551, 3554, 3556.

21st.—Nos. 3585, 3587, 3593, 3595, 3596, 3612, 3614.

28th.—Nos. 3634, 3636, 3640, 3643, 3653.

April 4th.—Nos. 3661, 3664, 3674, 3677.

11th.—No. 3694.

18th.—Nos. 3708, 3718.

25th.—Nos. 3727, 3731, 3735, 3736, 3742, 3744, 3747.

May 2nd.—Nos. 3758, 3767.

9th.—Nos. 3793, 3795.

16th.—Nos. 3805, 3808, 3814, 3820, 3822, 3823, 3824, 3826.

23rd.—Nos. 3827, 3828, 3829, 3834, 3839, 3840, 3841, 3842, 3843, 3845.

30th.—Nos. 3852, 3854, 3857, 3858, 3860, 3862, 3865, 3866.

ANSWERS.

3810. **Collotype.**—"G. H." should communicate with Mr. Petskey, 174, Ramsey Road, Forest Gate, London, E., for practical lessons.—ETCHER.

3832. **Purple Tones.**—"Egham" can get the finest tones purple if he uses a bath composed of

Chloride of lime	...	...	...	14 grs.
Acetate soda	...	...	...	1 oz.
Chloride gold	...	...	...	1 tube
Water (hot)	...	...	...	80 ozs.

To be mixed dry before using.—RELIANCE.
3832. **Purple Tones.**—Re answer in May 30th, read 15 drachms instead of minims, *id est*

Gold	...	...	...	15 grs.
Water	...	...	...	15 drms.

(1 dram equal 1 grain.)

—PETER PIPER.

3846. **Set, Information Wanted.**—If you do not wish to go to a high price, get a Lancaster's half-plate International, minus the lens, and fit it with an Optimus R. E. 7 by 5; avoid the "complete outfits" as advertised, but purchase your chemicals, etc., as required. Get "The Beginner's Guide to Photography" (Perken, Son, and Rayment) as an instruction book, and later on supplement it with the "Dictionary of Photography." If you will write me (address with Editor), I will send you a complete list of all that you will require to commence with, together with a few hints.—H. LEACH.

3847. **Plates.**—I found them as near as possible the same rapidity.—W. A. J. CROKE.

3847. **Plates.**—Ilford white label are forty times rapidity of wet plate, and Thomas's are sixty, so it is as forty is to sixty, or four to six.—B. J.

3847. **Plates.**—Ilford white label are about two-thirds the rapidity of Thomas's extra rapid.—H. LEACH.

3848. **Exposure.**—Presuming that the light is at its best, but that there are shadows in which detail is required, $\frac{1}{10}$ of a second would be correct for $f/10$ with Thomas's extra-rapid, or 1 second under the same circumstances with Thomas's slow landscape. This is the indication given by my exposure meter.—ALFRED WATKINS.

3848. **Exposure.**—From your query you give one the idea of being quite a beginner. Under the circumstances named I should say you would have to take off and put on the cap again as quickly as you can with your hand. But why use $f/10$? You will get no definition whatever, especially with Lancaster's Instantograph. Try $f/32$, and two exposures of 3 and 6 seconds. You should experiment; it is the only way to get on.—W. A. J. CROKE.

3848. **Exposure.**—At mid-day in June or July, about one-twentieth of a second.—H. LEACH.

3849. **Moving Objects.**—Yes. Perhaps the shutter is at fault.—B. J.

3849. **Moving Objects.**—Not without a drop shutter, to get anything like a sharp picture.—W. A. J. CROKE.

3850. **Reducing.**—"Self-Taught" had better make up a saturated solution of ferricyanide of potassium (red prussiate of potash), and add one part of this to nine of the ordinary fixing bath; immerse

B. S. ATKINS.—If the stains on the negative are there before having printed from it, try a weak solution of hypochlorite of zinc. If they are after the plate in this, and the plate will reduce rapidly; for slight reduction reduce the amount of the potash solution. When sufficiently reduced, wash well and dry. The mixed solutions do not keep. The above will reduce negatives intensified with Werner's intensifier (mercury), so will probably suit "Self-Taught."—J. G. P. VEREKER.

3850. Reducing.—It is evident from your query you do not want local reduction, but general. Try the following formula: Take of

Ferricyanide of potassium ... 1 oz.
Water (to make) ... 10 ozs.

Put your plate into a porcelain dish, and cover with water (for a half-plate, say, 2 ozs.), then into the measure pour one drachm of the above, and one drachm of your hypo solution. Pour the water from the dish into the measure, and return the mixture to the plate. *Not vice versa*. When sufficiently reduced, wash well and dry spontaneously.—W. A. J. CROKE.

3850. Reducing.—Soak the negative to be reduced in a solution of hypo-soda of usual fixing strength till the film is soft, then remove it and add a few drops of a saturated solution of red prussiate of potash to the hypo bath; re-immers the negative, when reduction of density will rapidly follow. If the action ceases before the negative is thin enough, add a few more drops of red prussiate solution. Wash well after, and remember red prussiate of potash is poison.—Q.

3851. Intensifier.—

Perchloride of mercury ... 2 drms.
Ammon. chlor. ... 2 "
Water ... 8 ozs.

Filter, and immerse negative until bleached through, then wash well and immerse in

Ammonia '880 ... 1 drm.
Water ... 4 ozs.

when it will turn black, when evenly coloured (by transmitted light), wash well, and dry.—T. A. BLAKE.

3853. Stops v. Iris Diaphragms.—By all means use an Iris diaphragm; they are much better than the ordinary stops in every respect.—Q.

3853. Stops versus Iris Diaphragms.—I should say "Raw Amateur" would find an Iris diaphragm preferable to stops; it is light-tight, cannot be lost nor forgotten, is more convenient to use when focussing, and the exact sized aperture for the picture in question can be obtained. An objection has been raised against it that it wears bright, and is not easily re-blacked by the user; but so do stops, and if well made, it would take a long time so to do. The advantages of stops are that they are cheaper, and the lens mount a little smaller. These do not compensate for the extra convenience of the Iris diaphragm.—J. G. P. VEREKER.

3853. Stops v. Iris Diaphragms.—Get the ordinary stops. The Iris diaphragms are very liable to get out of order, and are sometimes uncertain in use.—H. LEACH.

3855. Canterbury Cathedral.—For permission to photograph the interior, apply to the Dean. Permission is readily granted. I photographed there in Easter week, using Eastman's stripping films (which are slow), $f/32$ stop, on a bright day. The exposure: were about a quarter of an hour for the choir, and ten minutes for the nave, Trinity Chapel, and lighter parts; for the other, darker, parts about the same as the choir. These proved ample.—W. H. H.

3856. Optimum Lens.—One of the cheapest and best in the market. I have used one for the last two years (a 5 by 4 R.R.) with the greatest satisfaction. You cannot have a better.—W. H. H.

3856. Optimum R.R. Lens.—All the Optimum lenses are excellent, and will give you every satisfaction.—H. LEACH.

3856. Optimum R.R. Lens.—These lenses are the finest in the market; you cannot possibly buy better even at a higher price.—WM. A. JACKSON.

3859. Pinholes.—Cover the holes with retouching varnish and allow to dry, and then work over the holes with a H.H.H. lead pencil, cut to a fine point.—H. LEACH.

3861. Focussing Chamber.—This is a very useful instrument, but as it is always best to shade the camera and back, during exposure, with some kind of cloth, I think it hardly takes the place of a focussing cloth for general use.—H. LEACH.

3863. Hydroquinone Developer.—I can strongly recommend the hydroquinone formula I gave last week (3871). It keeps perfectly, and is altogether most satisfactory. About 2 grains of hydroquinone to each ounce of developer is about the right quantity.—Q.

3863. Hydroquinone Developer.—Use Thomas's formula, using 120 grains of caustic potash, instead of 160 grs., per 20 ozs. of water. Have found that the reason why the Ilford developer does not keep is owing to its absence of citric acid.—H. LEACH.

3864. Hanover.—You can obtain Ilford plates and chemicals from S. Federlein, Louisenstrasse, Hanover.—J. H.

3867. Isochromatic Plates.—Edwards do publish with their plates a special developer, but you will find the Ilford on any ordinary pyro, and

ammonia on hydroquinone, do just as well. Why should they want to be printed on any special paper, because they are isochromatic. Print on silver bromide, platinum, or anything else that suits the subject and your fancy.—W. A. J. CROKE.

3867. Isochromatic Plates.—Edwards includes his formula with his Isochromatic plates. I should doubt the Ilford developer suiting them, unless it was diluted with water and the plate over-exposed. The following is a comparative table of the amount of chemicals to each ounce of water:—

EDWARDS'.			
Pyro	...	...	1½ grs.
Citric acid	...	...	½ gr.
Bromide of potassium	...	...	⅓ "
Ammonia ('88)	...	...	1½ minims

ILFORD.			
Pyro	...	...	1½ grs.
Bromide of ammonium	...	...	2½ "
Ammonia ('88)	...	...	1½ "

Any system of printing can be used with Isochromatic plates.—J. G. P. VEREKER.

3868. Spain.—Refer to "British Journal Almanack" for 1889 for Spanish phraseology of photographic terms.—J. H.

EDITORIAL

NOTE.—Anyone requiring an opinion upon photographic apparatus, plates, etc., must give a number or initial for identification, as in no case will makers' names be inserted in this column.

SPECIAL NOTICE.—We are very pleased to find that replies in this column are so much appreciated, but we should be very grateful if those requiring advice would send their letters to us BEFORE TUESDAY MORNING'S post if possible. The time occupied in replying in this column is very considerable, and owing to the often late receipt of letters, many matters have to be left over each week. This we much regret.—ED:AM:PHOT:

A. D. GUTHRIE.—Thank you; the information reached us from many quarters.

A. A. CORNELL.—Your letter is inserted; we are sorry it was not in time to stop the publication of your previous communication.

W. J. FITCHER.—We note your remarks and thank you.

P. S. S.—We should advise C if you require a focussing scale; the camera is well made, and if you are careful with the changing of plates no difficulty will be experienced. B we do not care for, and C we have not seen. The A camera will not suit you, as you require a focussing scale. C has a good shutter of the Kershaw type.

LAUREL.—We have asked the firm to give us an explanation, see our leader this week.

J. D. L.—Enlargements are not eligible in either competition.

A. HOGG.—We place the lenses in the following order, B, C, A. You will see that we consider A of the least merit of the three named, which answers your second question.

A. W. GOTTLEB.—We will advise you if you require the negative; shall be pleased to receive any of your work.

C. A. SAMUELS (Maldah).—Your instructions have been handed to our publishers. We shall be very pleased to see your work entered for our competitions. The print sent is not eligible, as it does not comply with our conditions, of which we send you copy by mail. The series you speak of would be eligible for our Tour Competition, particulars of which will be announced after July 1st.

G. PERCIVAL SMITH.—Would you please say when the MS. was sent us?

J. E. HOWARTH.—The "cheap developer" is quite old, and the formula is to be found in almost any of the text-books, but still we thank you for writing us, and your expressed desire to help others.

P. MALDEN.—We will send you the addresses, although contrary to our rule.

T. BAKER.—Your MS. is rather too much in the shape of an advertisement, but we will consider your communication, which satisfies us that the wise men who came from the East are still to be found in the west.

FRAS. DAVIS.—We favour no shutter. If you will comply with our rules (see head of this column), we shall be pleased to advise you. We only see callers on Monday afternoons and Thursday mornings, except by appointment, unless the caller is from the Continent or abroad.

VALENTINE CHARLES.—Cannot help you about the fluid in thermometer. You can get an R.R. lens $5\frac{1}{2}$ inch focus to work at $f/8$, for £2 2s. Other makes will cost you £3 5s. and £3 10s.

MR. E. F.—Will give you an opinion upon negatives next week. Prints, which we return, are only fair work. Three of them are over-exposed, and the lighting of the other leaves much to be desired. Your toning bath should have more gold. Choice of subjects might be improved. We shall be glad to see more of your work later on.

A. L. BARKER.—All the cameras made by the firm you ask about are reliable and well worth the money. We do not know that one is better than the other.

H. T. LINGING.—The effect would be that the prints would not tone so readily, and would not be

so good a colour. Have you read "Platinum Toning" (Clark); if not, you should do so at once.

WORCESTER.—The fault lies in the fact that No. 2 solution has been far too strong. A solution of plain soda will strip the film from the glass. Weaken the solution and have more patience. You should not attempt such views without first backing your plates.

AULD REEKIE.—The solution of chrome alum has been too strong, the effect being to draw and harden the film. We are much afraid there is now no remedy, and can only suggest that possibly, by prolonged soaking in water, the alum might be washed out.

PERCIVAL BULL.—Your account of the affair is really very funny, but as the two extra swans are in no way like the two you say you photographed, they cannot be ghosts. We think they must have shot out from the bank "unknown." We must compliment you upon the picture, which is certainly above average.

LIZZIE T.—Very sorry your prints have been placed on one side. In No. 1 you have too many figures, and they are awkwardly placed; the foreground should have been less, and, as a consequence, you would have had more sky. No. 2. The same remarks apply as to foreground, which lacks definition. No. 3 is well chosen, but your negative is flat and wants contrast. No. 4 shows much artistic judgment in selection; but in this picture, had you had less foreground, you would have got in the tops of the trees on both sides of your picture, which would have helped the composition. It is, however, a very delightful picture. No. 5 has not much interest. In No. 6 you have lost the tops of all the trees, and your figures are not well placed. As a whole the work is very fair, and we are surprised that results could be secured with a whole-plate set costing only £3 3s. You should buy a better lens; the one you have does not give sufficient depth. Don't force development, as by so doing you get thin negatives. Print a little deeper, and in toning use a little more gold. Hope you will compete in our next "Ladies' Competition." Very pleased to see your work at any time. Your progress is marvellous.

COUNT D'ASSCHE (Paris).—We will answer by letter.

PHOTO-MICROGRAPHY.—We insert as a query. L. F. R.—You will find S and F very satisfactory. The shutter works well. The plates must be backed. We think if you have a sufficiently rapid lens you will with the camera have no difficulty in securing the subjects you desire. F is a useful camera, but hardly what you want. A B will not be of service to you. Shall be glad to help you in any way.

W. ASHBURNER (Wimbledon).—Messrs. Salter and Co., of Folly Bridge, Oxford, will give you full particulars. The boats leave Kingston for Oxford on Mondays, Wednesdays, and Fridays, about 9 a.m. J. H. MOUNTJOX.—A. A very decent camera, and will do all you require. B. We do not think so, and do not advise them. We should say D. They are, we believe, both French lenses; but the D is in purchase in very large quantities, and mount all their lenses themselves. E. We know very little about the shutter, and, therefore, cannot pass an opinion upon it. F is certainly much better, and thoroughly reliable. Thanks for your complimentary reference to the value of our opinion.

L. PRESTON.—The book is "hung up" by the author. We are worrying him.

J. N. REESEN.—We do not advise, and cannot write you; but must request that you comply with our rule—see head of this column.

B. J.—Certainly not; but they are the better for rolling.

A. JORDAN.—We should use No. 1, and err rather on the side of over-exposure. The single lens should give you a very fair picture of the pier, etc.

T. T. M.—We do not think it all likely, and have no data to go on. We certainly have not time to write to fourteen firms in order to acquaint you whether they sell goods on the easy instalment system. See remarks in "Our Views" on this matter.

O. E. F.—We do not consider dextrine a satisfactory mountant; but here are the particulars:—

Pure white dextrine ... 1 oz.
Boiling distilled water ... 3 ozs.
Methylated spirits ... 4 ozs.

Stir till dissolved, and strain through calico.

G. H. GRANT.—Very sorry; but really we cannot read your post-card.

BOY AMATEUR.—Dry plates, in the following order:—II, I, III, V, VIII. Others follow in any order. Developer:—III, II, I, IV. Paper, in order as you should take them up:—Albumenised, bromide, platinum. Any further particulars will be gladly furnished.

CYMRU.—Have not seen the camera, so cannot help you.

ORATES.—The camera is perfectly useless, and would not hold together in a tropical climate for a week. You would do just as well with a cheap quarter-plate, using it as a hand-camera, and fitting it in a case or box.

B.—Certainly; they will come under "Landscapes" if they are what you describe.

J. WEST.—The slides are well made; but the firm are very dilatory and unbusiness-like.

printing, caused by the silver albumenised paper adhering to the film, you will have much difficulty in removing the stain. Wall, in "Dictionary of Photography," recommends local application with a tuft of wool saturated with a weak solution of cyanide of potassium, and gives the following:—

Sulpho-cyanide of potassium	10 grs.
Nitric acid	5 minims.
Distilled water	1 oz.

First Ladies' Photographic Competition.

PHOTOGRAPHS have been received from the following:—

Mrs. Louisa Mary Wall.
 „ Marie E. Marriott.
 „ S. Francis Clarke.
 „ Margaret Cole.
 „ Louisa B. Turney.
 „ Brian Hodgson.
 „ Brockholes.
 „ Emily M. Jessop.
 Miss Claire Vaughan Davis.
 „ Annesley.
 „ Agnes Caroline Burns.
 „ Margaret Watson.
 „ Henrietta Beaton.
 „ Philipson.
 „ Jane Cleland Burns.
 „ A. M. Williamson.
 „ Louisa A. H. Malcolm.
 „ M. J. Hands.
 „ Mary Alice Henderson.
 „ Dora Anderson.
 „ Madge L. Ibbetson.
 „ Ruth L. Ibbetson.
 „ Rose Wood.
 „ Clarissa Miles.
 „ James.
 „ Fanny N. Pownall.
 „ Beatrice M. Wilson.
 „ A. V. Abington Bayley.
 „ Mary B. Ward.
 „ E. Sybilla Bird.
 „ Emma Beecroft.
 „ Nellie Thornton.
 „ Ellen Graham Stone.
 „ Ellen Boyer Brown.
 Misses M. and F. Ward.

Sale and Exchange.

RULES.—Fourpence for twelve words or less, and a penny for every additional three words, must be enclosed with each advertisement, together with the name and address of the sender, which must be paid for, and sent to Hazell, Watson, and Viney, Ltd., 1, Creed Lane, Ludgate Hill. Halfpenny stamps preferred. A single figure, or group of figures undivided by letter, space, stop, or words, counts as one word; compound words count as two words.

REPORTING UPON APPARATUS.—The Editor of the AMATEUR PHOTOGRAPHER will be pleased to report, to any intending purchaser, upon apparatus, etc., offered for sale in the "Sale and Exchange" column, provided such apparatus, etc., is forwarded by the seller to him to the offices of the AMATEUR PHOTOGRAPHER, 1, CREED LANE, LUDGATE HILL, LONDON, E.C., free of charge. The intending buyer to pay a fee equivalent to a commission of 2½ per cent., the minimum being one shilling, upon the sale price of the apparatus, etc. The publishers will undertake the packing and sending of all goods at the cost of the seller. As far as possible, the Editor will undertake to send a report within TWO DAYS of receipt of goods.

DEPOSITS.

Deposits for goods to be forwarded on approval may be made with our Publishers, who will hold the amounts deposited until they are satisfied that the transaction has been executed to the satisfaction of both parties. Cheques and Post Office Orders should be made payable to Hazell, Watson, and Viney, Ltd. A nominal charge of 1s. is made whether a sale is effected or not.

Advertisements can be inserted under a number, the name and address being registered, and letters forwarded for a fee of 6d. to cover postage.

N.B.—Trade Advertisements cannot, under any circumstances, be inserted in this column. Such advertisements can be inserted elsewhere at the Trade Scale, which may be obtained on application to Parry and Crawford, 1, Creed Lane, Ludgate Hill, London, E.C.

Almanacs, etc.—13 Photographic Almanacs and Year Books, some scarce; 6s.—Walker, Sootholme, Nottingham.

"Amateur Photographer," etc.—114 numbers AMATEUR PHOTOGRAPHER, 2s of "Photography," and four "Year Books;" 7s. 6d. free.—E. Galloway, Gladstone Terrace, Gateshead.

AMATEUR PHOTOGRAPHER, vols. vii., viii., ix., x.; "Amateur Work," vol. iii.; half-yearly, vol. iv.; "Leisure Hour," 1834, last three bound; crystalline painting materials, complete, 20s.; exchange "Photography."—Ed. Mason, Askridge, via Bedale.

Burnisher.—Burnisher for sale, Vever's 6½ in., with spirit lamp, good as new; price 10s.—Bartholomew, Great Linford, Bucks.

Cameras, etc.—Half-plate, double extension, swing and reversing back, two slides, 18s.; whole-plate landscape camera, one slide, 8s.; half-plate burnisher, new, with lamp, 9s.; Demon detective, complete, 3s. 6d.; no approval; stamp for reply.—Thomas Dukes, 8, Heath Street, Stourbridge.

Lancaster's quarter-plate Merveilleux camera and double dark-slide, nearly new, two porcelain trays, two printing frames; 13s. the lot, cash.—G. D. P., 69, Avondale Road, Peckham, London, S.E.

Camera and Lens.—Half-plate camera, with Lerebours et Secretan lens and dark-slide, in good condition, been used in a professional's studio; cost £7; price £3.—Mr. Lennard, 29, Clarence Street, Marsh Lane, Preston, Lancashire.

Camera, Lens, etc.—Quarter-plate camera, lens, and slide, suit beginner; 10s., post free.—James Thomas, 1, Griggs Terrace, Port Talbot.

Lancaster's quarter 1839 Instantograph camera, two double slides, canvas case; 28s.; or with rapid rectilinear lens, 43s.; little used.—B., 59, St. Thomas Road, Finsbury Park.

Dark-Slide.—Lancaster's double half slide, metal, never used; 4s. 6d., or exchange.—Maides, Midhurst.

"Encyclopædia," etc.—Blackie's "Encyclopædia," fourteen bound vols., condition new, splendid work; "Old and New London," complete, unbound, 70 numbers, cost £2 4s., condition new; money offer, or exchange photographic apparatus. Cabinet portrait lens wanted.—J. W. M., 574, Old Ford Road, Bow, E.

Hand-Cameras.—Optimus Magazine detective camera, new; cost £5 6s.; what offers?—N., 5, John Street, Ryde, I.W.

Stirn's detective camera, large size; cost originally 42s. 6d.; perfect condition; what offers?—Faulkner, School House, Clifton College.

Hand-camera, Diamond pattern, for 12 plates 3½ by 2½, new, with one dozen plates; 22s.—Mann, 3, North Hill, Colchester.

Stirn's Secret camera, perfect; 16s.—Thornton, 43, Walton Street, Chelsea.

Hand-Cameras, etc.—Optimus hand-camera, 5 by 4 R.R. lens, six double backs, to hold 12 quarter-plates or films, the shutter works at any speed up to 1/10th of a second; can be used on a tripod for time exposures; in perfect condition; price £5; originally cost £7 11s. 6d.—To be seen at Browning's, 63, Strand, W.C.

Lenses.—Grubb's quarter-plate patent instantaneous landscape lens, 19s.; also French portrait lens, for cartes, 13s.—Kellow, 63, Alexandra Road, Hampstead.

7 by 5 rapid Euryscope (Optimus); £3 10s.; cost £1 14s. 6d.—Shaw, 42, Castle Street East, Oxford Circus, W.

For sale, a rapid portrait lens (by Ross), diameter 2½ ins.; focal length 10½ ins., rack and pinion; price £2 2s.; cost £9 9s.—Harcastle, East Street, Brighton.

Suter's Aplanatic 8 in., new; 55s.—Summers, jun., 28, Cheapside, London.

Carte-de-visite lens (Squire, London), 7,100, and stops working f/4, cheap, 35s.; will exchange for good quarter-plate camera or Tylar's half-plate metal slides, etc.—Blake, 8, Myrtle Grove, Kenilworth Road, Seacombe, Cheshire.

Fine 7 by 5 R.R. lens, with Waterhouse diaphragms, new, 35s.; half view lens, Waterhouse diaphragms, working f/8, 10s.—McComas, 5, Laurence Pountney Lane, City.

Excellent half-plate landscape lens; 7s.—W. Shepard, 19, Surrey Street, Derby.

Lenses and Shutters.—Lancaster's half-plate instantaneous lens, shutter, and Iris diaphragm.—Short, 13, Endymion Terrace, Finsbury Park.

Lancaster's half-plate instantaneous lens, Iris diaphragms, and shutter, in perfect order; 20s.—James Johnston, 17, Hamilton Drive, Hillhead, Glasgow.

Ross' 9 by 7 lens, and Newman's shutter to fit, both new and in perfect order; will take £8; or will sell separate, £5 5s. and £1 5s.—Apply, H. W. Fielden, Barbican Court, Barbican, E.C.

Lens, Tripod, etc.—Lancaster's half-plate Instantograph 1887, lens, tripod, shutter, one single and two double backs, in excellent condition, 45s.; also quarter-plate camera, wooden body, tripod, portrait lens, and one single back, bargain, 15s.—Photo, 262, Kirkstall Road, Leeds.

Negative Paper.—Bargain, six dozen 5 by 4 Eastman's improved negative paper; 3s. 3d., free.—Gee, 11, Richmond Crescent, Barnsbury.

Photometer, etc.—Decoudun's photometer, re-

touching desk, view finder, Stirn's detective camera; what offers?—Address, Wm. Bell, Northallerton.

Plates.—Offers for eight unopened boxes Ilford stereoscopic plates, warranted new and perfect, no further use to owner.—H. Smith, Netherleys, Colne, Lancashire.

Sets.—International Lancaster's quarter-plate camera, rectilinear lens, with Waterhouse stops, instantaneous shutter, tripod, two double dark-slides, waterproof case, washing tank, rack, nearly new; price 65s.—D. Swain, 28, New King Street, Bath.

What offers for Lancaster's Special patent quarter-plate camera, rapid Rectigraph lens, three double dark-slides, shutter, tripod? Cost £7.—E. Mayhew, 36, Castle Road, Kentish Town, London.

Lancaster's 1890 half-plate Instantograph, dark-slide, tripod, and f/8 rapid rectilinear lens, quite new; cost 105s.; bargain, 73s.—E. Ernest, 2, Hawthorn Villas, Slad Road, Stroud.

Quarter-plate Rouch's camera, four double backs, leather case, and stand, 60s.; rapid rectilinear lens, fitted with Newman's shutter, 40s.—Wm. G. Walker, 87, Union Terrace, York.

Lancaster's quarter-plate Instantograph, with three double slides and three metal slides, tripod, good lens and shutter, all in excellent condition.—What offers to Miller, 23, Listria Park, Stoke Newington, London.

7½ by 5, square reversing, long extension, Spanish mahogany camera, rising front, etc., including stereo front and partition, three patent double backs with pillars, Optimus R.R. 8 by 5, pneumatic drop shutter, Ashford's stand, and cases only bought last season; £12 10s.; or, without lens, shutter, and stand, £8 10s.; seen any time by appointment; no cards.—Photo, 173, Hemingford Road, Islington, N.

Half-plate Instantograph set, with four double dark-slides, lamp, and wood travelling case, 60s.; quarter-plate Optimus set, with one double back, complete, 30s.—Regius, 53, Clapton Common, N.E.

For sale, 10 by 8 double extension camera (Spicer), carriers from quarter-plate, dark-slide, and changing box, Ross' actinic doublet, tripod; price 10 guineas; in first-class condition.—T. G. Mellors, 17, Newstead Grove, Nottingham.

Whole-plate Lancaster's Special patent camera, lens, stand, time-instantaneous shutter, as new; £5; approval; deposit.—F.O.S., 5, Royal Hill, Greenwich.

Whole-plate camera, all movements, Ross' R.R. lens, four backs, tripod, etc., leather case; cost £24; offers; would sell camera without lens.—Sinclair, Woodville, Putney.

Lancaster's Instantograph half-plate lens, 10s.; quarter-plate Le Merveilleux camera, lens, two double slides, stand, 15s.—W. Powell, 3, Tintern Street, Brixton.

Half-plate camera, Underwood's Exhibition, three double dark-slides, carrier, solid black leather case, and new four-fold stand; price £4 10s.; approval.—W. Morrison, Napier Road, Luton.

Set, etc.—Half camera, three metal slides, stand, R.R. lens, £4 10s.; flute, cost 10 guineas, price £4; plated cornet, cost £7, price 50s.; Diamond Safety bicycle, £7, list £12; magic lantern, 30s.—P., Decorator, 2, Peter's Street, Norwich.

Shutter.—For sale, Kershaw's shutter, cost 16s., without tube, in perfect condition; price 9s. 6d.—H. Bell, Edwalton House, near Nottingham.

Trippods.—Sliding oak tripod, with top (suit Lancaster's half or quarter plate cameras), fitted in waterproof case, complete; 7s. 6d.—Gardner, 45, Parliament Hill Road, Hampstead.

WANTED.

Cameras.—Lancaster's 1839 Instantograph quarter-plate, complete; approval; full particulars.—Beveridge, 20, Albert Drive, Crosshill, Glasgow.

Camera, etc.—Half-plate camera, with dark-slide, box or bellows, without lens, cheap.—Cartwright, 25, New Road, Willenhall.

Camera, Lens, etc.—Lancaster's quarter-plate Instantograph, brass-bound, latest pattern, complete, Eastman's quarter-plate roll-holder, latest pattern, also Wray's 5 by 4 Casket lenses, all must be in first-rate condition.—Full particulars and price to Capt. Burne, Glen Parva Barracks, Leicester.

Whole or quarter plate, each three double backs, Ross' rapid symmetrical, offered in exchange for good half-plate.—2, Sussex Place, Southsea.

Camera and Lens.—Portable camera, must have latest improvements, not smaller than whole-plate; also lens.—Mater, Nut Grove, Chew Magna.

Camera Case.—Good half-plate camera case, cheap.—Short, 13, Endymion Terrace, Finsbury Park.

Dark-Slides.—Six quarter-plate and two or three half-plate Tylar's metal slides.—S. Playne, 62, Mer-van Road, Brixton.

Three double dark-slides, for half-plate Le Merveilleux.—Tilson, Westthroughton, Lancashire.

Hand-Cameras.—Shew's Eclipse hand-camera, 4½ by 3½, fitted with roll-holder, perfect condition; approval.—Miss Richardson, Crescent, Ripon.

Dot hand-camera, in exchange for Le Merveilleux quarter-plate, with double slide, folding stand, three vulcanite dishes, two printing frames.—Long, 77, Shirley Road, Southampton.

Leather Case, etc.—Leather case for 10 by 8

camera, and three double backs; must be good and cheap.—Bond, Bodmin.

Lenses.—Lens, Steinheil's No. 1 aplanatic, $\frac{1}{4}$ in. diameter, $1\frac{1}{2}$ focus; on approval.—State price to T. Tinne, Hawkhurst, Kent.

Lens, cabinet portrait, very cheap. — Photo, 84, Park Street, Bristol.

Good wide-angle rectilinear lens, also R.R. half-plate.—A. L. Barker, Trinity, Cambridge.

Wray's landscape lens, wide-angle, $\frac{7}{8}$ by 5.—Summers, 148, Stanstead Road, Forest Hill.

Photographic Outfit.—Photographic outfit; will give medium sewing machine, with four drawers, extending leaf cover, new from the maker; £3 5s.; approval both ways; outfit must be good.—Sykes, Crowther, Pudsey.

Roller Slide.—Eastman's quarter-plate roller slide.—J. Taylor, West Town, Dewsbury, Yorkshire.

Sets.—Whole-plate camera set; approval.—Apply, Pitcher, 155, Kingsland Road, London.

Ross's portable symmetricals, 3 and 12 in. focus, walking-stick tripod; also light quarter-plate camera.—Jas. Cartledge, Birkendale, Sheffield.

Quarter-plate outfit, with slides; must be good.—John Barrow, Pudsey.

Tripods.—Ashford's three-fold stand, 6 in. top, cheap for cash.—W. Morrison, Napier Road, Luton.

Three-fold tripod, closing 20 ins., opening 5 ft.—Batty, Denman Drive, Liverpool.

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NOTICES TO SUBSCRIBERS.

Subscriptions must be prepaid.

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POSTAL UNION	" " 6s. 6d.....	" " 13s. 0d.
INDIA, CHINA, ETC.	" " 7s. 9d.....	" " 15s. 3d.

NOTICES AS TO ADDRESS.

PUBLISHING DEPARTMENT.—All letters containing Subscriptions, Orders, Remittances, SALE AND EXCHANGE Advertisements, or other business matters for the *Amateur Photographer* are to be addressed to the Publishers, HAZELL, WATSON, AND VINEY, LD., 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

NOTE.—SALE AND EXCHANGE Advertisements, at the charge of Three Words for One Penny, can be received as late as WEDNESDAY MORNING.

ADVERTISEMENT DEPARTMENT.—All communications respecting TRADE Advertisements in the *Amateur Photographer* are to be addressed to PARRY AND CRAWFORD, 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

NOTE.—Trade Advertisements are received up to Tuesday morning.

EDITORIAL DEPARTMENT.—All Literary Contributions, Queries and Answers, Photographs for Competition or Criticism, Books or Apparatus for Notice or Review are to be addressed to the Editor, *Amateur Photographer*, 1, Creed Lane, Ludgate Hill, London, E.C.

NOTE.—To ensure insertion, all Communications should reach the Editor on Tuesday.

CORRESPONDENCE SECTION.—Anyone wishing to communicate with Contributors can do so by forwarding such Communication in stamped envelope, under cover to the Editor, *Amateur Photographer*, 1, Creed Lane, Ludgate Hill, London, E.C.

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THE "AMATEUR PHOTOGRAPHER" 1890 TRAVELLING STUDENTSHIPS.

PRIZES.

First Prize	£30 0 0	Fourth Prize	Gold Medal.
Second ,, ...	£21 0 0	Fifth ,, ...	Silver Medal.
Third ,, ...	£14 0 0	Sixth ,, ...	Bronze Medal.

The **AMATEUR PHOTOGRAPHER** Certificate, duly signed by the Judges, will be presented to the Prize Winners.

SUBJECTS FOR COMPETITIONS (Not less than Six Prints):

LANDSCAPE or SEASCAPE.—LANDSCAPE with FIGURE.—GENRE or FIGURE STUDY.

NOTICE TO PRIZE WINNERS.

The winner of the First Prize will have to proceed on a Photographic Tour for *four weeks*, accompanied by camera, etc.; the winner of the Second Prize *three weeks*, and the winner of the Third Prize *two weeks*. The Editor of the *AMATEUR PHOTOGRAPHER* will suggest Tours.

Prize winners must undertake to submit all Negatives taken during the Tour to the Editor of the *AMATEUR PHOTOGRAPHER* or his nominee, and must allow the use of at least twelve Negatives, and must give full power to the Proprietors of the *AMATEUR PHOTOGRAPHER* to publish prints from them in any form they may desire.

Competitors will be required to send in their work on or before Saturday, the 14th of June, 1890; the adjudication being made before the end of June in order to permit successful Competitors to take their "Tour" during the holiday season.

All those wishing to compete should apply for rules, entry forms, and forms of declaration to

The Editor, "*AMATEUR PHOTOGRAPHER*," 1, Creed Lane, Ludgate Hill, London, E.C.

THE AMATEUR PHOTOGRAPHER

Edited By CHARLES W. HASTINGS

1, Green Lane, Budgegate Hill, London, E.C.

TELEPHONE No. 1645. Telegraphic Address: "VINEY, LONDON."

VOL XI. No. 297.]

FRIDAY, JUNE 13, 1890.

[PRICE TWOPENCE.]

OUR VIEWS.

To hold as 'twere the mirror up to nature."—Shakespeare.

PARTICULARS have come to hand of the holding of the fifty-eighth annual exhibition of the Royal Cornwall Polytechnic Society. The exhibition, which includes a section for "Photographs by Professionals and Amateurs, Photographic Appliances, etc.," will open at Falmouth on Tuesday, the 26th August, 1890, and will continue open for five clear days. No charge is made for space. List of prizes and all further information may be obtained of the Secretary, Mr. Edward Kitto, F.R.M.S., the Observatory, Falmouth, or of Mr. W. Brooks (member of the General Committee), Laurel Villa, Wray Park, Reigate.

* * * *

THE Bulmer case has, we think, given much satisfaction, but we very much regret that the name of Mr. F. C. Pattison, of Montford Place, Upper Kennington Lane, London, S.E., should have been drawn into the case. We find that he is not in any way associated with Mr. Bulmer, as Mr. Fallowfield led us to suppose, and that, far from aiding Bulmer, he has narrowly escaped being a victim. We personally beg to accord Mr. Pattison a full apology, and to offer our sincere regret that his name should have been coupled with that of Bulmer. Mr. Pattison is an amateur photographer, and, like many of our subscribers, buys and sells through our "Sale and Exchange" columns, and is not a dealer in photographic apparatus.

* * * *

THE PHOTOGRAPHIC SOCIETIES' REPORTER for May 31st contains a portrait of Mr. Alexander Keighley, who occupies the dual position of President of the Bradford Amateur Photographic Society and the Keighley and District Photographic Association, distinguished honours for so young a man. The work done by Mr. Keighley is now well known, and we feel certain that he will occupy a front position amongst the best workers wherever his pictures are exhibited. It may not be generally known, but all his pictures are thought out and composed in a pencil drawing before the lens sees them. The REPORTER also contains several good articles, notably, "Photographic Chemistry," by E.

J. Wall, "Photo-Micrography," by Allan L. Hall, F.C.S., "Cloud Photography," by J. J. Hollway, "Artistic Photography," by Joseph W. Spurgeon, "Stereoscopic Photography," by L. R. Strangways, M.A., "Photographic Picture Making," by Haley Wilson, "Art in Photography," by George Phoenix. We have named sufficient articles to show that there is much to be learnt from a careful study of the pages of the last number of the PHOTOGRAPHIC SOCIETIES' REPORTER.

* * * *

THE arrangements for the exhibition to be held in Edinburgh under the auspices of the Photographic Society progress satisfactorily. A meeting of the members was held last week, at which it was decided that the exhibition should be opened on the 14th of November, and remain open until the 7th of January. In addition to the ordinary character of photographic exhibits, it is intended to illustrate, historically and technically, the processes connected with the art in their various stages, and for this purpose the Council invite the co-operation of those possessing unique specimens, especially of the earlier processes and apparatus. No charge will be made for space, while it is considered desirable that each competitor should send in not less than three pictures in each class. There are altogether nineteen classes, in eighteen of which one silver and one bronze medal will be given, while in the 19th class, for apparatus, materials, etc., three silver and three bronze medals will be awarded. In addition to these, a gold medal will be awarded the picture possessing the highest degree of merit, irrespective of size or subject. The whole of the classes, except 11 and 12, are open, class 11 being landscape, confined to amateurs, and class 12, photographs of any subject, confined to amateur members of the Edinburgh Society.

We trust the Council will keep us advised of their movements in order that the exhibition may be kept before the world. At the same meeting, we understand from the *Scotsman*, that "a communication was made by Mr. Hugh Brebner embodying the results of investigations

TRAVELLING STUDENTSHIP COMPETITION closes June 14th, 1890.

which he had recently made of the phenomena of reversals.' As an outcome of many experiments, Mr. Brebner stated that he had discovered that under conditions where a negative was now taken in a second, a 'positive' could be taken in a three-hundredth part of a second; and that where less was necessary, a small stop, a darkened room, or a red light might make the exposure short enough."

* * * *

As an appendix to our "Dark-Room" list, we are compiling a list of towns on the Continent where photographic materials may be purchased, and where, in many places, the use of dark-rooms may be secured. In this list we have incorporated the names of towns and dealers published in the May number of *Photographic Scraps*. Those contemplating a tour on the Continent would do well to possess themselves of a copy of that very useful number of *Scraps*. We have also made considerable additions to the list, and shall be glad of any further help from subscribers or others.

* * * *

It will be seen by a letter in another column that Richmond is to have a photographic society, which it is probable will be under the Presidency of Major J. F. Nott. The members will be indeed fortunate if the gallant Major will accept office, and we are sure that everyone in Richmond and Twickenham who "goes in" for photography will be eager to join the society.

* * * *

MESSRS. HAZELL, WATSON, AND VINEY, LD., have prepared a well-designed "Certificate of Merit" for the use of photographic societies. It is made in two sizes, viz., 12 by 10 ins., and 15 by 12 ins. These are worth seeing, and the firm will be pleased to forward specimens on receipt of applications from Secretaries of societies.

* * * *

We publish a short paper on "Eikonogen as a Developer for Bromide Paper;" the result of experiments made by that very careful worker, Mr. Greenwood Pim, M.A.

* * * *

WE have been asked to state that the Liverpool branch of the Y.M.C.A. have a Camera Club which has been established for more than twelve months, and has a large number of members, who are doing good work.

* * * *

THROUGH the courtesy of Mr. J. J. Briginshaw, the Hon. Secretary of the Photographic Convention, we are in a position to give further particulars, and are pleased to note that the programme of arrangements is much more carefully drawn up than last year. The Convention will be opened by the President, Mr. C. H. Bothamley, F.I.C., F.C.S., on Monday, the 23rd inst., in the Town Hall. The Mayor of Chester has invited the members and visitors to a conversazione to be held on the evening of the 23rd, and many other arrangements have been made for the social enjoyment of those attending the Convention. The educational side will not be neglected, and, as far as at present arranged, the following papers will be read:—"The Records of Photo-micrography," by Andrew Pringle; "Imagining and Imaging," by P. H. Newman; "Orthochromatic Photography with Rhodamin," by C. H. Bothamley, F.I.C., F.C.S.; "Photography in Norway," by Paul Lange; "A Magazine Camera and Lantern," by Friese

Greene; "Astronomical Photography," by A. A. Common, F.R.A.S. Reports will be received and read from the Lens Standard Committee, and also the Weights, Measures, and Formulæ Committee.

The Town Hall will be open daily from 10 a.m. to 6 p.m., and there will be an exhibition of novelties, photographic apparatus, etc. On Friday evening there will be a dinner and smoking concert at the Grosvenor Hotel, and on Saturday a lantern entertainment, open to the public. Dark-rooms have been placed at the disposal of the Council for the convenience of members, by several of the leading photographers of the city and also by the Curator of the Grosvenor Museum. We have said enough to show that a glorious week of pleasant and profitable work is in store for those who can spare the time to attend the Photographic Convention at Chester.

* * * *

FROM the *Stationery Trades Journal* we are glad to find that action has been taken by Messrs. Poulton and Sons, to prevent piracy of photographs which have been copy righted. The *Journal* says, "You may not pirate your neighbour's pictures, whether they be photographs or engravings, or lithographs, or photogravures, or otherwise produced. They are as much his property, until the term of copyright expires, as the coat on his back, and those who copy them without permission, or even sell unauthorised copies of them, do so at their peril. If, on the other hand, you happen to be the sufferer from the piratical operations of somebody else, take care that, before you begin legal proceedings, you have a written transfer of the copyright of the photograph or picture from the man who took or drew, or otherwise made it, as well as entering it at Stationers' Hall. See the case *Barraud v. Cox*."

* * * *

WE have frequently in recent numbers drawn attention to "school photography," and we have just received the following very interesting account of the Clifton College Photographic Society.

"Most of our public schools have photographic societies. There is one at Clifton College, which has for its President a master, and a boy for its secretary, who is in the sixth form. The number of boys in the society is about twenty. They have a big dark-room with four sinks, and two doors to enable anybody to come in while another is developing. The toning can be done by an assistant, or by the boys themselves. The President supplies all chemicals at a very moderate price per term, not including plates and printing, or, if the amateur wishes, he can keep his own chemicals, as only the pyro developer is supplied. The assistant teaches new amateurs the *modus operandi*. There is a competition at the end of the term for interiors and landscapes; the photographs, of course, must have been done by the amateur himself without any help from the assistant. There is a prize given for the first in merit, and stars of honour to the next three or four; they are judged by an eminent amateur, and afterwards exhibited to the whole school, whose criticisms are very severe. There are outings about once a fortnight, all the expenses being paid for. Clifton is really a very picturesque place for photography, there being many objects of interest to photograph; for instance, the Suspension Bridge and the Observatory, not mentioning the beautiful scenes on the Avon. Even the College itself is an object of attraction to photographers."

This letter is characteristic of the boy mind, and shows his pride in, first, his college and its surroundings, and, secondly, the satisfaction with which he approves of all that is done for him in connection with the delightful pastime of photography.

Letters to the Editor.

FILCHED AMATEURS.

SIR,—In your last issue you very wisely exposed the dishonest actions of Mr. Bulmer. But are not some of the widely known dealers equally deserving of censure? I consider that we, as customers, are entirely at their mercy.

Some little time ago I sent stamps for new catalogue to a firm in Leeds. Up to now neither catalogue nor stamps has arrived. About the same time I sent stamps for a rose-tap to a firm in Lambeth. I have heard nothing more of either.

Last summer I was going to Ingleton for an outing, and obtained a packet of half-plate 60-times for use, as the day was rather dull. I exposed the whole of them, and in developing found that the plates were perfectly worthless, not yielding one good negative.

On asking the dealer the reason, he told me with a smile that they had been in the shop for years. But he refused to make me any allowance. The same firm supplied a friend of mine with a box of half-plate Ilford's, in which five were hopelessly broken. No allowance was made in this case also.

Now, sir, ought there not to be some means of redress in such cases as these? Dealers are sharp enough in protecting themselves by demanding "cash with order," while we are expected to put up with any kind of treatment with the greatest placidity.

VICTIM.

* * * *

THE BULMER CASE.

SIR,—Mr. F. C. Pattison, of 6, Montford Place, has called upon me in reference to your paragraph last week, and has shown me correspondence proving that instead of helping to procure goods for Bulmer he was in reality one of his victims, though, fortunately, he got his money back, when Bulmer found I took no notice of his order.

I am glad there is a prospect of your exposing the ways of the so-called photographic dealers; but I certainly think the victims have themselves to blame for sending orders to perfect strangers without even a reputation to lose, when there are dealers whose forty years' record is sufficient guarantee that customers get good value and receive prompt attention.—Yours faithfully,

JONATHAN FALLOWFIELD.

35, and 36, Lower Marsh, Lambeth, S.E.,
June 6th, 1890.

SIR,—I am not concerned to defend the above-named person, whose system of dealing appears only equalled by the tradesmen "with shops," darkly indicated in your well-timed leader last week. But, in common fairness, I take exception to Mr. J. Fallowfield's animadversion on Mr. F. Pattison's style of business. From this person I have bought barely soiled photographic goods, by the best makers, at about two-thirds of the cost price, with which I am most thoroughly satisfied. This testimony is due to Mr. Pattison.

The whole gist of the matter lies, however, very much deeper than those reading casually may suppose. "A Leading Lens Maker," Messrs. Lancaster and Co., Mr. Fallowfield, and Mr. Robert Abraham all make it a basis of complaint that their goods should be offered to the public much below their retail prices. Such a grumble might be all very well in a journal devoted exclusively to trade protection; it is perfectly out of place in one conducted in the interest of the amateur. There is probably no business under the sun which offers such opportunities of unfair dealing to the trader, wholesale and retail, as does photography. Articles, the intrinsic value of which may be a few shillings, are advertised far and wide, and consequently sold for as many pounds. Nor is this all. On every side are found complaints of the miserably deficient workmanship of cameras, and all apparatus supplied not only by the makers by some misnomer called cheap, but also by others who can only be called additionally dear. On the other hand, there are tradesmen who rove about town collecting apparatus discarded for that of other or better makers, or larger or smaller sizes. These, if good, they sell at prices very much under their original cost, and no doubt the shopkeeper holds them in aversion. These are not the men who should be "exposed" and discouraged, but the manufac-

turers, who are the true parasites of the amateur, without whom they would not exist a day, who cringe to him, bleed him, cheat him, mock him, all in turn, and rely upon extensive advertisement in order, as they think, to prevent well-merited exposure.

I indicate no one, but I follow up the excellent criticism of your article this week by the suggestion that a well-scrutinised plebiscite of the worth and reliability of makers might with great advantage be conducted in your most valuable journal.—Yours faithfully,

H. S. SCHULLESS YOUNG

3, The Temple.

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(Barrister-at-Law).

THE HIRING SYSTEM.

SIR,—In reference to your leader in the AMATEUR PHOTOGRAPHER of the 6th inst., I cannot submit to the imputation, which is a very strong one, as I have done no trade on anything except in a business-like manner. Still, I find, through the carelessness of a former employé, certain grounds for complaint have been given.

The facts are these:—At the dissolution of a firm in 1889, in which I was interested, I purchased at the auction sale a few of the articles, namely, four cameras and two lenses by different makers, and not finding any use for them, I tried to dispose of the same. "Batten," seeing the enquiry in your paper asking for photographic apparatus on hire, having had the same himself some months ago, answered it, the replies to which he sent to me. I replied to the enquiries, using a copy of an old circular. No remittances have been received, and the only complaint is, the non-reply to correspondents who wished for goods which I had not got. I must state that I do not carry on the photographic or hire business, directly or indirectly, beyond the few things which I have stated. Therefore, your caution to amateurs against doing business with me is perfectly useless. It would certainly have been better before warning your readers to have made some enquiries, directly or indirectly, as to who I am, your information having no basis except on the facts stated above, therefore I shall look for your contradiction of the statement you made in your last week's issue, for it is now six years since I first let goods out on the hire system, and this is the only complaint.—Yours truly,

(MRS.) C. A. BAINES.

NOTE.—We have given the information as we received it, and, though at the risk of being considered ungallant, endorse every word that we have said against the "system."—ED : AM : PHOT.

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THE EXECUTION OF ORDERS, ETC.

SIR,—I beg to thank you for your article *re* unreliable photographic dealers. I could a tale unfold of a perfect hand camera for which I paid £7 in Easter week, and which, notwithstanding letters and telegrams, I could not obtain delivery of till Whit Monday—seven weeks after payment. I have promptly returned it, as being hurriedly finished and not by any means perfect.

I am promised, after more waiting, a perfected instrument, and have full hopes that by the summer of 1891 I may be in possession of my purchase.

I think the possibility of such an article being forthcoming in your paper must have leaked out, as I have of late had profuse apologies and excuses for the delay—in fact, quite decent business letters, where originally I could with difficulty obtain an acknowledgment of my cheque. I only trouble you with this to show that there are large numbers of us who, though silent, are being served in the way you so well describe.—Yours faithfully,

June 7th, 1890.

J. R. M.

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ALBUMENISED PAPER.

SIR,—In the "Complete Photographer" (page 393, present volume), on "Silver Printing," one is told to avoid the double albumenised paper. Will you kindly inform me what the objection to it is? I have been using it for some time past (Schölzig's), and though at first I obtained good results with it, I cannot do so well with it now, though I use exactly the same formula as I have always done with it. (I should say I only use small sizes, which may possibly be cut from remnants.)

THE "IDEAL" HAND-CAMERA.

As I am writing to you, let me say a few words anent Abraham's "Ideal," which you praised very highly recently (page 320, present volume). I was induced by a cursory look at the camera at the Crystal Palace, to give an order for one of these cameras, and was told that there was such a run on them that I

could not be supplied with one under a month. As a matter of fact, it was considerably over that time before I got it.

I should mention that I had it fitted by Abraham with a Taylor lens, which I expect is not improved by being removed from its setting as sold by the firm, and fitted into the Ideal. I tried it against the Eclipse lens, and found but a very slight difference between it and the last named.

The focussing arrangement of the camera is also *most unreliable*, there being far too much *play* in it. Indeed, by tilting the camera forward, the index runs of itself to one end of the scale, and by reversing it, it flies to the other end.

The speeding of the shutter is also very defective, not giving anything like the range claimed for it. The shutter is also said to be self-setting, but it is evident from the working of the trigger, that the action of pushing it in (and it takes a *long push*, rendering it almost impossible to take a real *snap-shot* with it) evidently does the real setting, that is, gives the tension to the spring—and also pushes up the lens $\frac{1}{2}$ of an inch with it!

Altogether, this camera, in its present condition, I consider very imperfect, though I believe it to be susceptible of improvement.—Yours, etc., J. R.

NOTE.—We can, of course, only speak of the camera which we had an opportunity of inspecting.—ED: AM: PHOT.

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PHOTOGRAPHIC SOCIETY FOR RICHMOND.

SIR,—With reference to my letter in the AMATEUR PHOTOGRAPHER of May 30th as to the possibility of starting a society in Richmond, I am glad to say that I have had a very kind letter from Major J. Fortuné Nott, who promises to do all in his power to assist the proposed society.

I have had a few communications from gentlemen who saw my former letter, and who would join the society, and I should be glad if any other gentlemen similarly disposed would let me know as soon as possible, so that a preliminary meeting may be called, and the foundations of the society laid before the holiday season begins.

I must not omit to mention that Mr. H. Maclean, the President of the Croydon Camera Club, has been good enough to give me the benefit of his experience in founding that club, and with many thanks to yourself for your kind assistance, I am, yours faithfully, E. G. RICHARDSON.

20, Hermitage Villas, Richmond, Surrey,
June 10th, 1890.

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DECOUDUN'S PHOTOMETER.

SIR,—In your issue of last week but one, and in your column of "Answers," I noticed that two gentlemen had been running down that useful instrument, namely, Decoudun's photometer. I think if these gentlemen would give the instrument a fair trial, they would alter their opinion. I have used one for a good while, and always found it to give me a reliable exposure. Perhaps they do not know how to use it. If not, I shall be glad to tell them if they like. As late as last Saturday it was used to determine the exposure, and it answered well. I think it is not the right thing to do to run it down, and as I am using it every week, I felt I could not see it spoken about so badly. I may say I always use it, and can confidently recommend it to every amateur photographer. Trusting you will insert this in your next issue, I remain, yours, C. W. CORBISHLEY.

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LANTERN SLIDES.

SIR,—May I ask whether any of your readers have any old magic lantern slides or photographs of any description which they could spare us for our guild?

We have now a membership of over 1,200, and the difficulty of providing suitable games and recreation for our social evenings is increasingly felt, owing to our great need of funds.

Any gifts of this description would be a great help to and would be much appreciated by "our girls."—Yours obediently, W. S. CAMPBELL.

The Girls' Guild of Good Life,
Hoxton Hall, 128, Hoxton Street, N.
June 2nd, 1890. (Assistant Secretary).

KODAK LENSES, ETC.

SIR,—I had no idea when I drew attention to the above matter that I should raise such a free fight as is now going on. But as "it is an ill wind which blows no one any good," so this discussion has developed one fact very clearly, viz., that known (fixed) focus lenses need not be achromatic: the only use of achromatism being to assist in obtaining a visual focus. This is an important fact, and ought to revolutionise the manufacture of fixed-focus lenses; for as two glasses can be made for sixpence, and the mounting of them in a plain way ought not to cost more than half-a-crown, the whole thing might be sold for three shillings. Some of our enterprising opticians might well turn attention to this.—Yours, etc., FRED. DAVIS.

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THE LONDON ECLIPSE OF THE SUN.

SIR,—I observe in your issue of June 6th, under the heading "Science Notes," that photographers will have a chance on the 21st inst. of having a shot at Father Sol, as an eclipse of the sun occurs on that day.

Kindly allow me to correct the date, and give the following information for those who may wish to know when to be on the alert with their cameras. The eclipse will be on the 17th inst., when about one-third of the sun's lower limb will be obscured, and will be the most important visible in England till May, 1900. It is a return of the celebrated eclipse of 1836, which was annular in the north of England.

The following table shows the time of occurrence and magnitude:—

	Greenwich.	Edinburgh.	Dublin.
Begins ..	8.20 a.m.	8.22 a.m.	8.1 a.m.
Middle ..	9.23 "	9.14 "	8.55 "
Ends ..	10.31 "	10.10 "	9.53 "
Magnitude	0.368.	0.257.	0.279.

—Yours truly,

J. W. CAMPBELL.

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STAINS ON BROMIDE PAPER.

SIR,—Judging by the queries which appear from time to time, the above form a great stumbling-block to many workers. The most effective method of printing bromides is certainly the use of sheets larger than the negative, leaving a white margin all round the print by means of a suitable mask, and subsequently mounting them on plate-sunk mounts. But the difficulty hitherto has been to preserve this margin of a pure whiteness, and, troublesome as this is with ferrous oxalate, it is much more so with hydroquinone. Now, no one who has developed these papers both with iron and quinol can have failed to observe the infinitely superior image given by the latter; in fact, there is no comparison either in colour or detail. Unfortunately, however, if development is prolonged by slight under-exposure, or if the developer is old, most of the prints will show a deep stain round the edges, no matter how carefully manipulated. This means that to print without this stain a full exposure and a very quick developer must be employed, which is most undesirable, and gives a greenish-black tone far from artistic.

I do all my printing on bromide paper, for convenience and permanency, and I have made many experiments with a view to removing the stain referred to. At page 52, vol. x., an ammonia bath was given, which I found answered very well, but there are some stains it will not remove. I noticed lately in an American annual that a professional had employed cyanide of potassium for clearing prints. No proportions were given, but after several trials I have found the following formula act to perfection.

Make a stock solution as under:—

Cyanide of potassium	$\frac{1}{2}$ oz. avoird.
Water (distilled or boiled rain) ..	10 ozs.

(Keep this in a stoppered bottle under lock and key, clearly marked *Poison*.)

When required for use, take $\frac{1}{2}$ drachm stock solution, and add 2 drachms of water. Take a pinch of iodine between finger and thumb, and drop it into the cyanide. Stir until the cyanide has taken up all the iodine. *None must be left undissolved.*

Remove each print in turn from the washing water (they should be washed thirty minutes after fixing), place it on a clean glass plate, let it drain, and then hold the plate level in the left hand. Make a small and rather pointed plug of cotton wool,

and moistening it in the cyanide solution, go carefully round the margin of print, avoiding the picture, of course, and you will be surprised at the result. The stain is cut away as you proceed, leaving the paper snowy white. After treatment the prints must be well washed for another half hour in running water. The use of the cyanide does not end here. If your prints are over-developed, or have the whites impure, dilute the rest of the cyanide solution with four times its bulk of water. Immerse the prints, watch closely, and when clear plunge into cold water at once. The effect is wonderful. With this means of clearing the prints, slow development and old solution can be used without fear. While on the subject of bromides it may be interesting to some to know that by giving Ilford slow paper a rather full exposure, and using a weak hydroquinone developer, a result is attained which it is not easy to distinguish from platinotypes. But do not add bromide to your developer, as it gives harsh contrasts and kills detail.

Those who use Eastman's paper will experience a greenish image at times. This is turned to a rich blue-black in less than a minute by immersing in—

Sulphocyanide of ammonium	30 grs.
Water	4 ozs.
Chloride of gold	1 gr.

In fact, I always tone Eastman's paper in this solution to obtain a rich image. Be careful not to leave the prints in this solution after they assume a blue-grey appearance, or they will rapidly become deep blue, which, by the way, can be noted as giving exquisite moonlight effects.—I am, etc.,

H. W. B. BRUNO (Captain, O.S.D.)

St. Helena, May 19th, 1890.

* * * *

ACID FIXING BATH.

SIR,—In the current number of the *English Mechanic* attention is drawn to the merits of a new compound, "a solution of sodium acid sulphite," as an addition to the fixing bath. Some plates "fix in about one-fourth of the amount of time ordinarily taken," and "are remarkably clean and free from stain."

We have always been told by chemists that acidity in the hypo bath decomposes it, and sets free a sulphurous compound inimical to the permanence of the negative. Who is right?

FRED DAVIS.

The Complete Photographer ;

OR,

THE MODERN RECREATION OF CONTEMPLATIVE MEN.

By H. P. ROBINSON.

CHAPTER XII.

What is Photography?—Photography in Colours.—A Late Craze.

PHOTOGRAPHER.—I have endeavoured to guide you along the firm ground that leads across the morass of technical photography until you are ready to pass the threshold of the Promised Land of Art. It is a crowded path at the beginning, but not many reach the goal. Will-o'-th'-wisps flick their delusive little candles on all sides to laugh at one victim as he is swamped in new developers, at another at being entrapped with a new shutter. Others stay to play with toys. If you wish to reach the land of art you must escape from the seductions of science. You must stop your ears, as Ulysses did, to the Sirens. You must not listen to the fascinations of the red end of the spectrum and its potentialities; you must have no desire for the estimation of the differentiation of gradation through the altered synchronism of the atoms of pyrogallol. Instead of being enchanted with the power of measuring the speed of a shutter, you must be satisfied with the commonplace fact that it moves at a pace that gives you the exposure you desire. You must make pictures, not play with the tools.

PUPIL.—Photography has been called the Art-science, but I gather from your teaching that it is neither science nor Art?

PHOTOGRAPHER.—You are right. It is the result of one and the means of the other. On the one side are chemistry and optics, to say nothing of carpentry and cabinet making; on the other is art. But photography is a thing by itself. Our processes have grown out of chemistry, and it is hoped are being recognised as a means of art; and as a man may be a perfect painter without being an artist, and an artist without being a painter or sculptor, so without any knowledge of chemistry or art you may be a COMPLETE PHOTOGRAPHER. It is that I have endeavoured to make you; it is now for you, if you want to go further, to "learn the why and how to apply."

PUPIL.—And how am I to learn this before and after?

PHOTOGRAPHER.—The science you may get from Captain Abney's books, and may I be permitted to say that the way to Art as adapted to photography you will find in several of the little books I have published.

PUPIL.—You would prefer, however, that I did not give much time to science at present.

PHOTOGRAPHER.—I mean to say that you should learn to walk before you try to run. I am partly of the opinion of Pope, that "one science only does one genius fit," and am certain it is not necessary to become a chemist in the pursuit of art, and it is well to remain true to an old process until it is proved to be inferior to a new one. There can be no real progress when the mind is frittered away on so many subjects.

PUPIL.—But does not this conservatism stop all progress?

PHOTOGRAPHER.—It depends on the direction you are going. It may not conduce towards the progress of science, but that is not the business of the artist, and it gives him more time to study art. It is necessary only for the artist to judge of effects; he does not want to know causes. "Theirs not to reason why." It is the quality that should interest him, and the faithfulness to nature of the photographic image.

PUPIL.—You have gone through all the processes it is necessary for a complete photographer to know, but I fail to feel complete until I know how to photograph in colours. Can you tell me?

PHOTOGRAPHER.—A modest request meant to pose me, but I can reply to the letter if not the spirit. You may easily photograph colours; I have done it myself, and so have many others; it is, in fact, one of the oldest processes known. Many years ago (1866) I made some experiments under the direction of the late G. Wharton Simpson which showed that coloured light would give a coloured image. It is an easy experiment which any amateur could make, and thus enable him for ever after to say he had made photographs in colours. Here it is.

It was well known that in nearly every instance in which the natural colours had been secured, the sensitive surface employed was the violet sub-chloride of silver, often obtained by complicated and troublesome means on a plate of silver. It occurred to Mr. Simpson that his own collodio-chloride of silver would be a convenient agent for producing the violet chloride. I made many experiments for him, of which the following was the most successful.

A collodio-chloride emulsion was prepared consisting of 1 ounce of plain collodion, 2 grains of chloride of strontium, and 5 grains of nitrate of silver. A plate of opal glass was coated with this, dried before a fire, and exposed to diffused daylight until it assumed a deep lavender grey, or slate colour. Several pieces of coloured glass were then laid on the surface, and the whole placed in sunlight for several hours. The coloured glasses were bits we happened

to have by us. Deep ruby, bright-orange, red, and a piece of clear patent plate, on the end of which was poured a concentrated solution of aniline red, and on the other end aniline green, a piece of clear glass being between the two coloured ends. At the end of some hours' sunlight exposure we were surprised and delighted to find vivid indications of each colour in its true relation. Under the ruby glass the tint was of a bright claret; under the orange, a rather redder orange than the glass itself; under the aniline red, the tint graduated from orange to a deep purple according to the thickness of colour; under the green a graduated green. Under the clear glass we met with the most singular part of the case. The uncovered portions of the film submitted to the uninterrupted action of the light had darkened to a bronze black in the usual way, but the portion covered by the bare glass was bleached to a yellowish white, and on examining the glass carefully by placing it on a sheet of white paper, we found the glass slightly tinged with yellow, as was usual with the Belgian plate glass of the day. Here was a film of chloride of silver which, having been submitted to the action of light until it was of a deep warm grey colour, was bleached to a yellowish-white by the continued action of light through a piece of yellowish-white glass, while the portions of the same acted upon by the same light uncovered, printed to a deep bronze black.

PUPIL.—That was a strange experiment.

PHOTOGRAPHER.—Yes, and it is so simple that it is within everybody's means to try it. Is there anything else you want to know?

PUPIL.—At one of our early meetings you promised to tell me something of naturalistic photography, which was at that time so much in evidence.

PHOTOGRAPHER.—That is so long ago that the subject has got stale. Naturalistic photography may be now taken as a "negligeable quantity." The good of it will be absorbed into serious art, and the sound and fury which signifies nothing, not finding a congenial home here, has crossed the Atlantic and blown itself out in fitful gusts in America. The violent agitation did good in this way. It has been pointed out for many years by those who practised photography as an art that nature to the eye was not quite so sharp as shown by a corrected lens, and the naturalistic, by pointing out this difference of focus and exaggerating the real facts—in their writings, not their pictures, mind you, they were not so far gone as that—gave the thing increased prominence. The mistake they made was in the use of such intemperate language to condemn everybody and everything else that was not to their own way of thinking. In fact, it was a case, if not of temper, then certainly of temperament. Many a cause has been lost from a like frailty, but nothing could have saved naturalism as set forth.

PUPIL.—Why?

PHOTOGRAPHER.—Because, for one thing, they did not teach by example, for another it was first advocated by a writer who was not sufficiently endowed with temperate language to forward any cause; next it does not adapt itself to the genius of photography; and then it was not true.

PUPIL.—Weighty reasons. Can you explain them a little further?

PHOTOGRAPHER.—First its exponents do not teach by example. Unfortunately for the value of some teaching, it happens that a few of those writers in art who are also photographers—they are not many—preach one theory and follow another in practice. No theory could have been more violently advocated than the naturalistic, yet I still want to see a photograph produced strictly according to this theory. I have seen nearly all that the naturalistics have exhibited up to the present time, but nothing that could be said to distinctively agree with their theory, and, above all, most of

their negatives are as sharp as they can be made, and I don't wonder at it. When the subject is good and the light right, the wind lulled, and you are far from home, with no prospect of another chance, it must demand more than mortal courage to deliberately put your image out of focus.

PUPIL.—Then as to it not harmonising with the genius of photography?

PHOTOGRAPHER.—To wilfully neglect definition is to give up one of the strong points, the speciality if I may so say, of photography. Although I would not carry definition to excess, yet to give it up is to sacrifice a characteristic power. I have always held this opinion, and often find support in writers on other branches of art. In a capital article on Etching, in a late number of the *Art Weekly*, a paper which cannot be accused of unkindness to the naturalistics, I find this sentence, "Every medium of art expression has some field in which it is *most* at home; something it can do best; oil no less than water-colour; fresco as well as pastils. All that ought to be asked of each, or all, is that they shall not painfully stretch their powers, and that they shall not imitate some other medium." The writer further says, "Everyone of the reproductive arts has its *forte*, beyond which it ought to be allowed to stray in a liberal radius, with due reason given in the exigencies of the subject. When one of them apes another and wastes itself in a vain display of curious dexterity, then there is room for the critic to plant his foot, and to guide and restrain, and even to crush."

PUPIL.—A capital quotation and to the point. You had another objection, I think—you said it was not true.

PHOTOGRAPHER.—Did any healthy pair of eyes ever see anything out of focus in nature? Show me that curious phenomenon, and I promise to be converted at once. It is even more difficult to lay hold of than a Will-o'-th-wisp. You can see the phosphorescent flame of the Jack-o'-lantern if you cannot catch it, but astigmatism jumps away so quickly that you cannot get even a glimpse of it. This is putting the whole affair into a nutshell. If the naturalistics will show me directly and without quibbling how to see any object out of focus in nature I will worship at their shrine. In the meantime, if you should find that you are seeing double, you should consult an oculist or join the Blue Ribbon army.

PUPIL.—Well! thank you for your guidance through the realms of nothing new. Good-bye.

PHOTOGRAPHER.—Good-bye, hoping to see you again, when you can show me to what good use you have put the common-sense I have endeavoured to instil into you.

THE END.

PHOTOGRAM, NOT PHOTOGRAPH.—Mr. B. N. Lobb, of Bristol, writes:—"Let me suggest that the first term, 'photogram,' should be always used when a picture that *has been formed* by the action of light is meant, and 'photograph' when you use it as a present indicative or infinitive."

MR. BROWNLOW, of the Metropolitan Hospital, Kingsland Road, E., has recently made a new shutter (patent applied for), which is somewhat novel in form, and capable of giving very short exposures. There are two forms of it, one for use between the lenses, and the other before or behind the lens, and, of course, the one working between the lenses is preferable for the shorter exposures. The shutter consists of two pairs of metal screens opening from and closing to the centre, and on releasing the shutter for exposure, the first pair of screens opens, and immediately on the full aperture being attained, the second pair commences to close. The action is very smooth and almost noiseless, and there is no vibration. It is also arranged to give time exposures if desired. The whole is very light, of comparatively small dimensions, and the price is reasonable, varying from 14s. to 25s.

The Stereoscope.—IV.

BY VALENTINE BLANCHARD.

HAVING traced the stereoscope from its birth to its full growth and final decay, we will proceed to the more practical part of the subject; and here it becomes necessary to deal with principles which, perhaps, by many may be regarded as so well known as to scarcely need recording; but when it is remembered that speculations on stereoscopic vision had been indulged in by various philosophers, from Euclid downwards, through a period of thousands of years, and yet it was only in the present century that Wheatstone made the whole matter clear, it scarcely needs an apology for putting the whole matter in the simplest form possible.

A diagram or two will be needed later on, but as much as possible they will be dispensed with. It has been said by many that we get quite a stereoscopic effect when we look at a photograph through a large magnifying glass. Now, true stereoscopic relief can never be attained by this process, but as the light and shade in the picture looked at has all the truth and reality of the original subject, the mind through the eyes is only too ready to be deceived, and the moment one is closed, and the magnified subject is looked at with the other, a certain amount of deception takes place, but only a certain amount, for as two eyes are necessary to see things in solid relief, the moment the other eye is brought to bear on the subject, it declares to the mind that there is only a plain surface before it, and on this plain surface a resemblance of nature.

Leonardo da Vinci was very near the mark in his speculations on vision, and remarked that as two eyes were necessary to see the various distances in a landscape correctly, so no painter could ever hope, with all the skill at his command, to deceive them in any rendering of such scene on canvass, and that only by looking at the picture with one eye could any such deception take place. The whole question of stereoscopic vision (Gr., *stereos*, solid, and *skopein*, to see) turns on the fact that each eye sees its own picture, and that these two pictures differ very materially in their perspective, more particularly in the near objects, but that these two pictures are merged into one instantaneously in the final impression sent to the brain to be recorded there. There has been much speculation as to whether the two pictures are not alternately flashed there with great rapidity—with such rapidity, in fact, that they give the impression of one image only; but we do not feel it necessary to go further into this matter here.

Each eye sees more of the side of a solid object nearest to it. This can be illustrated in a variety of ways. For example, try the following as readiest to hand. Place the thumb against the nose, and flatten the hand as much as possible. I know this will be regarded as vulgar by some, for the operation is called by very vulgar little boys "taking a sight at him." And, therefore, it had better be done in private. Having got the hand—with no one in front of it, of course—in proper or improper position, close the left eye. If the right hand be employed, the back of the hand will be seen, though of course only the edge of the hand is offered to the two eyes. Now close the right eye and open the left. Immediately the back of the hand will disappear, and the palm of the hand only will become visible. Now, rapidly open first one eye, then the other, when it will be seen that the hand appears to jump from left to right alternately. For instance, when the right eye is closed, the hand will go to the right, and when the left is closed it will jump to the left. When both eyes are open, the hand takes a position midway between the two jumps, and both sides—both palm and back—are visible. Of course, it may be necessary with some sights to advance the hand from the

nose in order to see clearly, but the nearer the hand can conveniently be held to the nose the more striking will be the effect of the experiment.

Here is another illustration which still further emphasises the above. At the moment I write a lady is walking slowly in a street outside the window. The direction taken by her is to the right, across the field of view, and she is distant about forty yards. As she nears the right side of the view, bounded by the window frame, I close the left eye and she suddenly vanishes. The window frame has suddenly jumped to the left and swallowed her up.

The above illustrations show in an emphatic manner the importance of foreground objects, or those portions of the subject nearest to the eyes, in giving stereoscopic relief in a striking manner.

A little reflection will show that very distant objects do not show any perceptible change when looked at alternately with either eye. If the distance of the two eyes apart be roughly taken at $2\frac{1}{2}$ inches—the extreme limit may be stated as 3 inches—and both eyes be directed at some very distant object—say, a ship at sea, two miles away, and there is another ship in the same vertical line on the extreme horizon—no change in position of the nearest ship will be apparent when looked at alternately by the right and left eye; but if another ship, or any other object, occupy the same vertical line, but only a few yards distant, then the position of the near object in relation to the distant ones will materially change in accordance with the change of angle between the right and left eye, depending, of course, upon whichever eye is employed in looking at the view in question.

The relative strength of the two eyes is, of course, an important factor in these considerations; and in all experiments it is assumed that both eyes are fairly good and of the same focal length; though, as a matter of fact, in most persons one eye is stronger than the other; still, if there is no striking difference, the eyes are so adaptable, and, therefore, convey the correct impression to the brain, that they may be regarded as sufficient for most optical experiments.

The importance of both eyes in giving solidity to objects looked at, and so enabling various distances to be correctly judged, will perhaps be best shown by some experiments with one eye only.

Here is one, undertaken a short time ago by the writer in order to convince a painter of some eminence that it was impossible with one eye only to estimate the distance of unfamiliar objects apart when placed one behind the other. He was told to close one eye, and then put out the hand and touch the mantelpiece some little distance away. He had to extend the hand further than he expected; in fact, he had to feel for the object. Still, he was not quite convinced, and a more severe test was now applied. He was told to close the eyes until requested to open them. During the temporary blindness a series of objects were arranged on the table at varying distances behind each other, and he was placed in a low chair so that the eyes were about level with the objects in question. On being told to open one eye, and without reflection or hesitation to extend his hand and take up one of the objects in the middle of the improvised group, he failed completely, for his hand did not go within several inches of the object sought for. No further experiment was needed to convince him of the truth of the statement, but he was so surprised at the result that he made several more to satisfy himself that the failure was not the result of accident.

Of course, the memory of the form and relative size of objects must aid those who are unfortunate enough to have only one eye to help them through life. There can be

no doubt, however, that if some one were suddenly deprived of the use of one eye, were compelled to move about and do various things by the aid of the remaining eye only, before he had got use to the new condition of things involved in the loss, he would probably knock against various objects in his path and upset others. Nature, however, speedily helps him, and by more intense observation and more acute training of the remaining eye, he manages to get along fairly well; but never can he again see objects in real relief, and the wonders of the stereoscope are lost to him for ever. The best illustration of the importance of both eyes in order to judge distance is given in one of the works on the subject, but which one the writer cannot remember at the present moment: Suspend a large curtain ring, and arrange it so that only the edge is visible. Now place the experimenter a short distance away and exactly opposite to it. Let him take a hooked stick and reach it forward and try without hesitation to put the hook into the ring. If there is any betting going on, bet against his success if you want to win. In this experiment there is no previous memory, and as only the narrow edge is offered to him there is nothing to help him, and the chances are therefore very much against his success.

(To be continued.)

Eikonogen for Bromide Paper.

BY GREENWOOD PIM.

EIKONOGEN as a developer for negatives seems to have found comparatively little favour in Great Britain, chiefly on account of the difficulty in obtaining sufficient density, whilst in Germany it is apparently used to a considerable extent. Its use with bromide paper appears—if we may judge from the journals—to be almost unknown over here, although it is, I believe, adopted a good deal in America. As it is a very satisfactory and economical developer, I would ask permission to draw attention to it. In the *American Annual* for 1890 I saw a formula quoted which I tried satisfactorily; it was as follows:—

A.				
Eikonogen	..	..	..	16 grs.
Sodic sulphite	..	..	..	32 „
Water	..	..	..	1 oz.

B.				
Potassic carbonate	..	..	..	168 grs.
Water	..	..	..	1 oz.

Take of A 6 fluid drms., B 20 minims, water 2 fluid drms.

To avoid odd grains, I use what are practically the same proportions, with good results, viz.—

A.				
Eikonogen	..	..	..	2 drms.
Sodic sulphite	..	..	..	4 „
Water	..	..	..	8 ozs.

B.				
Potassic carbonate	..	..	..	4 drms.
Water	..	..	..	1½ oz.

The writer in the *Annual* suggests that this strength might be materially reduced. So it may, but the colour of the resulting print suffers—at least, that is my experience.

One of its great advantages over ferrous oxalate is that there is no danger of the inky stain the slightest trace of hypo produces, and which with all one's care will sometimes get on a finger, and ruin an otherwise excellent print. The danger of discolouring the high lights is much less than with hydroquinone—in fact, except at the extreme edge it is almost nil.

It is not an expensive developer, as one drachm of eikonogen, costing under twopence, will develop six 12 by 10 pieces of paper. A bottle of eikonogen containing a little over three ounces, costs three shillings; and the mixed solution can be used two or three times in succession, with a little strengthening. Moreover, the solutions keep fairly well for two or three weeks, even in an uncorked bottle.

The enclosed scrap, which was only a trial print, gives a fair idea of the colour, on which I would like your opinion.

It is not quite so suitable as oxalate for ghostly negatives, as it gives somewhat softer prints, hence it is better adapted to fairly good dense ones.

Our Contemporaries at Home and Abroad.

The *Photographic Times* (New York), speaking of "Toning Prints in Hard Water," says, "The finished prints are rough to the tongue, and when dry are covered with a mealy deposit that cannot be rubbed off. There are two or three ways of getting rid of the nuisance. One is to add milk of lime to the water, before washing the prints, just enough to soften it. The great danger is in adding too much. The exact amount can only be ascertained by experiment. Generally an ounce or so to the bucket is sufficient. It must be added a few hours before using the water, so as to give it time to settle. Another and better way is to wash, tone, and fix as usual, paying no attention whatever to the deposit on the prints till nearly ready to mount. Then immerse them, a few at a time, in a weak acid solution, say one drachm of muriatic acid to half a gallon of water. Let them remain in the acid solution till they are slick to the tongue. It will only require a few minutes. If a great many prints are to be cleaned, the strength of the acid bath must be maintained. The only objection to the acid bath is its tendency to cause blisters, especially if used a little too strong. But better lose a few prints by blisters than the whole batch with the white deposit of, shall I say, lime? But the best and most satisfactory remedy is to soften the water with ammonia before washing and toning. The exact amount required can only be ascertained by experiment. Two drachms of the stronger water of ammonia to the gallon is sufficient here. It should be added a few hours beforehand to give it time to settle." Articles: "The New Tariff Bill," "The Origins and Progresses of Photo-Engraving," "The Optical Lantern," etc.

The *Photographer* (Cincinnati), speaking of the New Tariff Bill, says: "Some time ago the announcement was made in these columns that an increase of 6 dols. a ream duty would be imposed on albumen paper if the proposed new tariff bill was passed. The tariff on albumen paper is now 15 per cent.; the new bill makes it 35 per cent.; and thus importers will be obliged to pay about 6 dols. more a ream for the paper, and will, of course, be compelled to charge photographers proportionately more for the paper when selling it to them. Photographers, however, will find it difficult, owing to the competition in their business, to transfer the tax to their customers. They would have to pay 6 dols. a ream more for their paper, yet furnish photographs at or very near the old prices. Do photographers clearly understand this? If so, we are sure they will unite in the effort which is now being made to defeat this proposed increase of duty on albumenised paper from 15 to 35 per cent." Articles: "Photography in Colours," "Manipulation in Flash-light Photography," "Retouching," etc.

The *Practical Photographer* has an interesting article on Mr. Jay Haynes' travelling studio car on the Northern Pacific Railway. The other articles are "Photography as a Business," "Nature and Art," "Photographic Enlarging," "Lighting Old Faces," etc. It has a good process reproduction of "A Portrait Study."

The *Naturalists' Record* has the first of a series of letters by the Rev. F. C. Lambert, on "How to Teach Ourselves Photography," as well as an article on "Photographs of Lightning and Meteorological Phenomena," which is illustrated with three good autotype reproductions of lighting flashes.

The *Photographic Art Journal* contains two process block re-

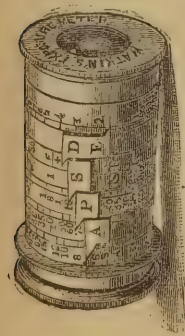
productions of photographs of "The Old Manor House, Chenies," and "St. Cross, Winchester," by Mr. Bernard Alfieri, both of which suffer considerably from the fact that the tops of the trees are cut off, and in one, at least, unnecessarily. There are articles on "The Photographic Salon, Vienna," "The Latent Photographic Image," "Mr. Edwards-Ficken on Rules and Effects of Lighting," "Gelatino-Chloride Emulsion Papers," "Carbon Printing," etc.

The *American Amateur Photographer*, in an article on "Women's Work," by Catherine Weed Barnes, says, "Women are, when interested in an occupation, conscientious and painstaking workers as a general thing, and neat ones, very useful qualities in the laboratory; but the first should not be allowed to miss the audacity of inspiration, and the last should not degenerate into the pettiness of unnecessary labour. Let your brains save your hands; do not be afraid of work, but save your strength for where it will do you the most credit. Studio work is physically, as well as mentally, *hard* work, and the camera-stand and backgrounds should move smoothly and easily, while every appliance should be so arranged as to avoid over-exertion, for a tired woman, like a tired man, does poor work, and the irritated nerves if pressed too far are apt to get the upper hand of one. When your fingers begin to work clumsily, when everything seems inclined to be at cross-purposes, and you are apt to drop whatever you take up, stop right where you are and rest until your mental horizon begins to brighten. Otherwise what is done under such a shadow will not advance your photographic reputation. Go at your studio work with freshly rested nerves, and do it always, if possible, in the morning. The results will be infinitely better than if you felt the necessity of constantly spurring up your exhausted energies to the working point." Articles: "A Trip to the Windward Islands, etc.," "Hand-Cameras," "The Silver Printing Bath," "Photo-Micrography," "Dry Plate Development," "About Developers," etc.

The *Camera*, speaking of the Photographic Convention, says, "The art has progressed so marvellously during the fifty years of its existence that photography now essays to produce pictures, although, afraid apparently to assert too boldly a claim to the higher artistic qualities, these results are moderately styled 'picture-making.' There is yet another phase of the usefulness of photography which is calculated to enhance the estimation of its value in the scientific world, and this is its undoubted power for scientific illustration of several of the other departments of science, such as astronomy, meteorology, natural history, medicine, and micrography. In this connection photography has already been mainly instrumental in taking not a few subjects of popular belief out of the region of plausible conjecture, and placing them in the category of established fact." Articles: "Films and Film Using," "Lantern Slides," "Photographic Chemicals," "Mrs. Julia Cameron's Pictures at the Camera Club," "Suggested Regulations for Photographic Exhibitions," etc. There is a reproduction of a photograph of the interior of St. Wilfred's Catholic Church, York, which is very good, and of a portrait of Mr. C. H. Bothamley, F.I.C., F.C.S., which, however, does not do justice to the sitter.

The *Studio* (New York) contains two full-page illustrations, one of the "Rembrandt du Pecq," and the other of a terracotta group, "The Market Place." There are also a number of "Art Notes" of considerable interest.

WATKINS' EXPOSURE METER.—Mr. Watkins has sent us a block of his meter, and we are therefore able to give the accompanying illustration. He says, "I claim that not only is the combination of actinometer, calculating rings, and seconds pendulum a great convenience, but that I have investigated and separated the various factors in a much more thorough way than other inventors, the result being that the instrument is of the greatest service for every kind of daylight camera exposure, from cloud pictures to enlargements. Mine is the first system in which instructions are given to test the actual light falling upon the subject." A descriptive article will be found in the last issue of the *Photographic Societies' Reporter*.



Science Notes.

Of high importance is the paper read by Dr. Burdon Sanderson before the Royal Society on May 1st. The subject was "Photographic Determination of the Time-Relations of the Changes which take place in Muscle during the period of so-called Latent Stimulation." The point was to show how long a muscle takes to contract after an exciting influence has been applied to it. During the last forty years the question has been investigated by Helmholtz, Bernstein, and Du Bois Reymond, and it appeared that about the one-hundredth part of a second elapsed between excitation and contraction. By photography, however, Dr. Sanderson has been able to show that the interval is only the *four-hundredth* part of a second. His method consists in projecting the movement to be recorded, whether of the muscle or of any instrument which serves as an index of change, on a vertical slit on which the vibrations of a tuning-fork and the motion of a signal are also shadowed. Immediately behind the slit is a photographic plate, which is carried by an equilibrated pendulum. The approximately uniform rate of motion of the sensitive surface which receives the light-written record is about one metre per second, but is determined in each experiment by reference to the rate of vibration of a tuning-fork.

At the meeting of the Meteorological Society of Berlin on May 5th, Dr. Wagner announced that arrangements had been made for endeavouring to take *simultaneous* photographs of flashes of lightning at widely separated stations during the coming summer. It was hoped that by this means it would be possible to obtain some idea of the actual length and direction of each flash.

What next? We expect that the idea of silvering the back of a sheet of celluloid, so as to use it as a *looking-glass*, would have been a long time in occurring to most of our readers. But Mr. C. H. Koyl, of Euston, Pennsylvania, has patented a process which is said to effect this object perfectly. An advantage is that the reflectors so formed, being flexible, can be readily bent to any shape.

No wonder the Japanese are so rapidly and successfully progressing in photography. For centuries the "sun goddess" has been an object of adoration there, and her representative—the mirror of polished bronze—is still worshipped, especially by the female part of the community.

Professor Graham Bell—the inventor of the telephone—is experimenting with an instrument which he has named the *radio-phone*. He finds that light can produce *sound* when it falls upon certain substances, the best of which for this purpose appears to be *soot*. It is the heat rays which produce the sound chiefly.

The *English Mechanic* thinks that the recent great increase in the price of platinum is on account of the extensive use to which that metal is now put by the makers of electrical apparatus. Anyhow it is hard on the photographers that their most permanent and most artistic process should be handicapped by a rise in the price of platinum from thirty-two shillings to fifty-four shillings per ounce in the course of a few months.

We think that many metropolitan photographers will welcome the new handbook, "Rustic Walking Routes Within the Twelve-Mile Radius from Charing Cross," by Messrs. Evans and Sharpe. There is a field-path map of the district, and several charts. It is sold in four parts at one shilling each, and the publishers are George Philip and Sons, 32, Fleet Street.

The annual inspection of Greenwich Observatory took place on Saturday last. During the year 1889 photographs of the sun were taken on 212 days, which showed that the middle of that year was a well-defined *minimum* of sun-spots. The new telescope for astronomical photography has been completed, and an important addition to the staff has been made in the form of four ladies, who are to take and to measure the photographs for the international chart of the heavens. This is quite a new opening for ladies who have received a scientific education; and it has doubtless been sanctioned by Government with a view of testing the capabilities of the fair sex for office and scientific work.

I see that in my last week's *Notes* my reference to the strong smell of the Eastman rollable film is printed *colour* instead of *odour*. From the patent (since printed) I see that the odour is (as I surmised) due to amyl acetate.

F. G. S.

BELFAST Y.M.C.A. CAMERA CLUB.—On the 7th inst. the members took an outing to Ballycarry and Harne, where a number of interesting pictures were taken.

Hints on a Day's Jaunt to North Wales.

(By our Special Commissioner.)

LAST Saturday, at the request of the Editor of the *AMATEUR PHOTOGRAPHER*, I ran down into North Wales, accompanying 30 or 40 "camera men" hailing from the Liverpool Society. We had brilliant weather for the excursion, and, as events turned out, a splendid time. Let me reproduce my notes as they were hastily scribbled down on the ferry-boat, in the railway train, and strolling through the winding, avenue-like lanes with which Wales abounds.

We crossed the Mersey from Liverpool to Birkenhead on the Woodside ferry-boat, and took train to Chester. The railway station adjoins the ferry; trains run frequently to the Cestrian capital, and we lost little time. Arriving at Chester, we changed carriages for Rossett and Gresford, the latter village only nine miles from Chester, and but three miles from Wrexham, a rather ancient city of the principality, noted chiefly in the North of England for its fine ales. There is much more of interest at Rossett than at Gresford for the photographer. Gresford is the further station, but it is advantageous to make this the stopping-place, and then work back to Rossett, a path between the railway track and the river Allen, to the south, being the most picturesque and productive route. Alighting at Gresford, a contingent of our party immediately set to work on an old cottage immediately beneath the station. Built at the foot of the railway embankment, and almost buried in trees and foliage, except at the front, this cottage makes an excellent picture.

When we had again got on the march, we re-crossed the railway line, and ascended a hill on the left. Gresford church, a building dating from—as the inhabitants of the neighbourhood say—the fourteenth century, is at the summit, and offers good opportunities. In the churchyard (north-east corner) there is a very old yew-tree—a patriarch in every sense of the word. I made several careful inquiries about the age of this tree, and find, on referring to my notes, that on unimpeachable authority—so far as village tradition and folk-lore can be unimpeachable—it is from 1,400 to 2,000 years old. In any case, whether Munchausens abound in Gresford or not, the old yew is certainly very old, and, given the light in the right direction, is well worth a plate or two. The interior of the church also presents several nice subjects. Continuing our survey, after looking about, we choose, as I have indicated, the river path to Rossett. We strike down hill again, across the railway track, and soon get on the straight road. On the right we have the metals; on the left, green, beautiful meadows and pasture land, with their herds of cattle, flocks of sheep, and panorama of hills, woods, and dales. Overhead, yews and laburnums make a perfect avenue, until we reach Marford, a village where at least half-a-dozen good subjects may be secured. On the road we have just left there are really some very pretty bits, and the artistic chord in our party is strung to concert-pitch. The material is always here—the moving flocks and herds, the sun, and the green make pictures. We are busy in Marford for an hour at least, among old inhabitants, cottages, and quaint nooks and crannies, and then make a forward movement to the famous mills of Rossett. There are two of these mills. They are almost opposite each other on different sides of the road; but for all that, one is in Flintshire and the other in Denbighshire. The natives point this out with much pride, and with measured strides to show there is no deception. When I say that both mills are good subjects, I need hardly add that they are "done to death" by gentlemen of the brush and easel. Photographers are beginning to crowd round, too. The Flintshire mill is, perhaps, second to the Denbighshire mill as a picture, but it affords a farmyard subject which, taken in the morning is, I am told, very exceptional. There is a mill at Gresford, but somewhat off the track. For this reason it is not much "taken;" besides it is scarcely as good a subject as the mills at Rossett. The foregoing is merely a rough indication of where and how photographers in North Wales can put in a good day. "Wilderness Fall," in the locality, is much talked of, but a poor subject, and the same may be said for one or two other "sights" in the neighbourhood. The residents are obliging if approached politely, and will concern themselves in behalf of artists and photographers.

The walk from Gresford to Rossett is only about two miles—

perhaps a little over—and the road is a good one. The journey from Liverpool occupies about one and a half hours, and the probable cost of the out will be, at regular fares, say, seven or eight shillings. This will include a substantial tea at Chester. But, during the summer, cheap excursion tickets to Chester can be secured three or four days a week; after which the railway fare from Chester to Rossett or Gresford is trifling. The district is one much affected by "camera men" in the Liverpool district, as affording excellent facilities for an enjoyable and satisfactory jaunt. Companionship is nearly always certain.

The party from Liverpool last Saturday made about 220 exposures.

Notes from the Liverpool Centre.

(By our District Editor.)

A DAY too late to send for publication last week, Mr. F. Anyon, a prize winner at Hastings, exhibited in the Liverpool head-quarters a series of selected views. The series was a mixed one, embracing specimens of platinotype and silver printing. The silver papers in particular were really excellent; the tones were brilliant, and the definitions all that could be desired. Much of the secret of this exceptional success, it was felt, was due to the fact that Mr. Anyon takes the trouble to sensitise his own paper. Special inquiries were made as to this. The paper is floated in a 60 grain nitrate of silver bath for 2½ minutes, and then suspended by the corner till bone-dry. Placed between blotting paper, under pressure, it will keep for six days. Mr. Anyon's estimate is that the paper when sensitised has cost him 4½d. a sheet; paper per sheet, 3d.; silver, 1½d. = 4½d.

The ordinary meeting of the Birkenhead Photographic Association takes place on Thursday this week, when it is hoped to announce the award of the adjudicators in the annual out-door competition. Mr. J. A. Forrest is to give his paper, postponed, on "The Most Effective Means of Protecting the Sensitive Plate during Development." By the way, the prints sent in for the competition mentioned will be on view.

Mr. Lange sails for Iceland on the 26th inst. He is making most complete arrangements for the trip, and, as far as practicable, safeguarding against any accident to apparatus and plates, Mr. Geo. Thordahl, an Iclander and prime mover in the matter of the journey, is at present in Liverpool superintending the details. The *Myrtle*, the steam yacht which will convey the party, has been twice round the world, besides making other protracted voyages. She is 320 tons yacht measurement and 512 horse power. Her internal fittings and appointments are excellent.

The Wallasey Association held their ordinary meeting on the 4th inst., Mr. Kite in the chair. Mr. J. W. Gregg read a paper on and illustrated the preparation of sensitised paper. During the past few years, he said, photographers had recognised that ordinary photographs on albumenised papers were much improved by the use of platinotype, bromide, etc. He did not recommend home preparation of the two papers named, but he advocated the use of plain salted papers which could be worked up into tones resembling platinotype work, and could be used also for enlargements, to be afterwards worked up in colours or crayon. A practical demonstration in preparing the paper followed, Mr. Gregg exhibiting several very successful pictures, showing the results obtainable by the use of various sizing and salting solutions. Messrs. Wilkinson and Reader were elected delegates to the Chester Convention. Next meeting, July 2nd.

"PRACTICAL FLASH-LIGHT PHOTOGRAPHY," by Robert Slingsby (Marion and Co.), is a nicely got up, well-written, and well-illustrated book on the subject. It is very evident that Mr. Slingsby has thoroughly studied and experimented in this branch of the art, and the suggestions he makes are eminently "practical," and if thoroughly studied and carried out will enable the worker to get successful pictures by the flash-light. The illustrations are from negatives made by the writer, and are most successful, and two are decidedly "practical." One shows a sitter and the arrangement of the screens and flash-lamps, and the other the picture of the sitter secured by means of the lamps shown in the first. Generally speaking, the book deserves reading.

Holiday Resorts and Photographic Haunts.

ILKLEY AND WHARFEDALE.

By R. S. P.

THE little town of Ilkley, in the West Riding of Yorkshire, may justly lay claim to a place in your columns, under the head of "Holiday Resorts and Photographic Haunts," and lovers of the "beautiful art" will find few spots within the county of broad acres where nature has dealt with a more lavish hand than the charming valley of the Wharfe.

Sixteen miles from Leeds, fourteen from Bradford, and nine from Skipton, Ilkley may be said to be conveniently situated for the tourist, and is well served by the North-Eastern and Midland systems, while it may also be mentioned that Harrogate, with its celebrated waters, is within half-an-hour's run.

Ilkley, be it known, is a health as well as pleasure resort, and should the visitor, weary and fagged with the "daily round," care to go in for the water cure, he can have his wish gratified by entrusting himself to the tender mercies of the bathman at one of the hydropathic establishments, of which there are several, and there is no lack of hotels and boarding-houses. Plenty of conveyances are also at hand by which to reach the numerous places of interest with which the valley is studded—presuming, of course, that "Shanks's mare" is not to be trotted out. But this reminds me that I must not lose sight of the object with which I set out—namely, to point out a few of the prominent features for the camera.

In Ilkley itself a few "tit-bits" may be found; but the beauty of the place has unfortunately been marred by the hideous railway embankment through the heart of the town, and the viaduct spanning the principal street.

The tourist, or visitor—as he cares to be described—may pay a visit to the parish church, where are three obelisks or crosses, said by antiquarians to date from A.D. 625. A visit may also be paid to St. Margaret's Church, built in 1879 from the designs of Mr. R. Norman Shaw, R.A., and in his usual quaint style. A large residence hard by, by the same architect, is also worth inspection.

Above the town, and at the foot of the heather-clad mountains, richly studded with bracken and fern, is a miniature lake, called "The Tarn," and a stiff pull further along the edge of the moor brings us to what is called the Cow and Calf Rocks, from which prominence may be had a glorious view of the valley and surrounding country. Below is the well-known Ben Rhydding hydropathic establishment, and, lower still, the river Wharfe. On the opposite side of the valley is Denton Hall, the birthplace of the great General Fairfax. Down the valley to the east, occasional glimpses may be had of the river, whose winding course is gradually lost to sight in the distance. Behind us is the open moor, and by taking a path to the south-west, we reach the Rocky Valley, formed by rugged rocks, covered with ferns and mosses; and further on is a pretty waterfall. Here also may be seen numerous heaps of stones, said to have been used as altars at some remote date.

We will now take our course up the valley, and leaving Ilkley behind us, journey on towards Addingham, and, as we pass along lovely country lanes we may obtain at various points charming views of the river and its wooded banks. Leaving Addingham, we soon arrive at Bolton Bridge, and here it may be mentioned is a capital hostelry, the "Devonshire Arms," which affords good accommodation. A short walk now brings us to the "lion" of the district, Bolton Abbey, a grand old ruin, finely situated, with its lovely surroundings of river and wood. Close by the Abbey is "The Lodge," used as a shooting-box by the Duke of Devonshire, the owner of the estate, and here also may be seen the memorial cross and fountain to the late Sir Frederick Cavendish.

Continuing up-stream, we soon reach Bolton Woods and "The Strid," a narrow rocky passage or channel through which the river rushes with a deafening roar; on each side are high rocks and boulders flanked by richly wooded banks.

The views of the river from here to Barden Tower—an ancient ruin—are well worth seeing; indeed, if the tourist cares to continue his ramble further, he will find an ever-changing variety of scene, and I may casually mention Simon's Seat, Troller's

Gill, Stump Cross Caverns, Burnsall, Linton, and Kilnsey Crag as well worth inspection, while the upper reaches of the river abound on every hand with scenery of unsurpassing beauty. Having gone so far afield, we may as well visit Kettlewell and Grassington, where at both places good accommodation may be had.

Having traced the river almost to its source, we will now return to Ilkley, and I will endeavour to point out a few of the many places of interest down-stream, for it is impossible to include *all* in so short an article. Mention, however, may be made of the model village of Burley-in-Wharfedale. Here are the noted Greenholme Mills, in which the late Mr. W. E. Forster was partner, the deceased statesman's residence, hard by, being worth a peep. Further on, on the north side of the river, is Weston Hall, a charming old place, formerly the seat of the Vavasours; and a short walk brings us to Otley, the metropolis of the dale. Farnley Hall, the seat of the Fawkes, with its unrivalled collection of Turner's paintings and Cromwellian relics, is a prominent feature of the landscape on the northern side of the valley, while on the opposite stands out prominently Otley Chevin, a mountainous ridge nearly 1,000 feet above the sea.

Here I must make my bow, but before doing so let me not forget to mention the Washburn Valley, from which the neighbouring town of Leeds draws part of its water supply. Here a day may be agreeably spent in viewing the many charming bits between Leathley and Fewston.

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BRIDPORT (DORSET).

By G. C. T.

Any amateur in want of a quiet seaside place to spend his holidays in cannot do better than go to Bridport. It makes a capital centre for photographic purposes, as the surrounding neighbourhood teems with subjects. Bridport, situated near the sea, is a country town in a very hilly district. In the following short tours I will endeavour to point out the chief places of photographic interest.

(1) Leaving Bridport, go straight to Charmouth, a small village four miles west of Bridport. Here the church, and close by the house in which Charles II. hid, with several cottages, make fairly good subjects. Passing on through a cutting in the hill-side, a splendid view of Lyme Regis can be had with a long-distance lens. Following the road for about one and half miles, we come to Lyme Regis, where several plates can be exposed. The Cob (a pier), and a view of the harbour, should be taken, as well as parts of the town. If the tourist has time, I would advise him to go on for about seven miles to the "Landslip," where some good scenery is to be seen. Not very far from there, there is a fine water mill, with a rustic bridge in the foreground, which is well worth a couple of plates.

(2) Go straight down to West Bay (one and a half miles); here two photographs can be taken of the pier and harbour. Then proceed east to Burton, where, after having passed through the town, two beautiful cottages are to be seen at the junction of the Abbotsbury road and the road leading to the sea. The church, with several other cottages, should be taken before returning to Bridport. I would next advise the photographer to go to Chiddock, where a beautiful little church is to be taken in a morning light, as well as several rustic cottages.

(3) This tour, if such it might be called, should be devoted to Eyp (two miles from Bridport), and Bridport itself. At Eyp there are a few fishermen's cottages. In Bridport the outside of the church (St. Marie's) is well worth a plate; only a wide-angle lens is required. The interior and the pulpit also make very good subjects. From the top of Allington Hill a good view can be had of the town of Bridport at about 4 p.m. Besides these places, Weybridge with Portland Prison, the training ship, and Melcombe, can be easily reached by train. Abbotsbury Swannery (the largest in England), with the ruined chapel on a neighbouring hill, should be visited.



MESSRS. A. M. GEERING, of 15, Vartry Road, Stamford Hill, have sent us some specimens of their sensitised paper. In the short time at our disposal we have printed from fair negatives on the paper, and toned it with both acetate and soda and borax baths. In both cases the results appear the same as that to be got on good commercial paper. It is claimed that the paper is not affected by sea-air, and will keep good for twelve months.

Register of Dark-Rooms, 1890.

THE following "Dark-Rooms" have been placed at our disposal. We class them in four divisions, *i.e.*, *a* amateur, *d* dealer or professional, *h* hotel, and *s* photographic society.

In our letter of introduction full particulars are given as to owner, address, charges (if any); plates, chemicals, etc., kept by dealers; terms for temporary membership of societies; hotels; distance from station, etc., etc.

Every application for letter of introduction must be accompanied by SIX PENNY STAMPS. The owner of "Dark-Room" will be advised by same post as the applicant. The envelopes should bear the endorsement DARK-ROOMS.

<i>d</i> Aberdeen	<i>a</i> Chesterfield	<i>a</i> Four Ashes, near	<i>d</i> Liverpool	<i>a</i> Northallerton	<i>a</i> Stamford
<i>d</i> Aberystwith	<i>a</i> Chipping Sod-	<i>a</i> Stourbridge	<i>s</i> Liverpool	<i>a</i> Oban	<i>a</i> Steyning
<i>d</i> Addingham	<i>a</i> bury	<i>a</i> Frodsham	<i>d</i> Llandudno	<i>s</i> Oldham	<i>d</i> Stockton-on-
<i>d</i> Amble	<i>a</i> Cinderford		<i>d</i> Llanidloes	<i>a</i> Oxford	<i>a</i> Tees
<i>d</i> Andover	<i>d</i> Cirencester	<i>a</i> Galashiels, N.B.	<i>h</i> London, Alders-	<i>h</i> Paignton	<i>a</i> Stoke-on-Trent
<i>a</i> Aylesbury	<i>h</i> Cirencester	<i>h</i> Giant's Causeway	<i>a</i> London, Blooms-	<i>h</i> Paisley, N.B.	<i>a</i> Stony Stratford
	<i>h</i> Clacton-on-Sea	<i>a</i> Ireland	<i>d</i> London, Borough	<i>d</i> Penrith	<i>d</i> Stourbridge
<i>d</i> Barmouth	<i>s</i> Cleckheaton	<i>d</i> Glasgow	<i>a</i> London, Chelsea	<i>d</i> Penzance	<i>d</i> Stratford-on-
<i>a</i> Barnsley	<i>d</i> Clevedon	<i>d</i> Glasgow	<i>d</i> London, Fen-	<i>d</i> Benzance	<i>h</i> Stratford-on-
<i>a</i> Barnstaple	<i>d</i> Clifton	<i>d</i> Glasgow	<i>d</i> London, Church Street,	<i>a</i> Pershore	<i>a</i> Stroud
<i>d</i> Bath	<i>a</i> Clitheroe	<i>s</i> Glasgow	<i>d</i> London, E.C.	<i>a</i> Perth	<i>h</i> Sudbury, Suffolk
<i>h</i> Bath	<i>d</i> Colchester	<i>d</i> Gloucester	<i>d</i> London, Fleet	<i>h</i> Port Erin, Isle of	<i>h</i> Sunderland
<i>s</i> Beaconsfield	<i>d</i> Colchester	<i>d</i> Gorleston	<i>d</i> London, High-	<i>d</i> Preston	<i>h</i> Sutton Bridge
<i>a</i> Bedford	<i>h</i> Colnbrook	<i>d</i> Gorleston	<i>a</i> London, Kings-	<i>h</i> Prince's Risboro'	<i>d</i> Swindon
<i>d</i> Belfast	<i>a</i> Colwyn Bay	<i>a</i> Goring	<i>d</i> London, N.E.	<i>d</i> Reading	<i>d</i> Taunton
<i>s</i> Belfast	<i>a</i> Coniston	<i>a</i> Gravesend	<i>d</i> London, London	<i>h</i> Redcar	<i>a</i> Tavistock
<i>d</i> Belper	<i>d</i> Crewe	<i>d</i> Great Yarmouth	<i>d</i> London, New	<i>h</i> Redditch	<i>a</i> Thornton Dale,
<i>d</i> Belper	<i>s</i> Crewe		<i>d</i> London, Cross	<i>d</i> Rhayader	<i>h</i> nr. Pickering
<i>d</i> Bexhill-on-Sea	<i>d</i> Crewkerne	<i>a</i> Halifax	<i>d</i> London, Wal-	<i>d</i> Richmond, Surrey	<i>h</i> Thorpe
<i>d</i> Birchington-on-	<i>d</i> Croydon	<i>d</i> Handsworth	<i>d</i> London, worth Road,	<i>a</i> Ringwood, Hants	<i>d</i> Todmorden
<i>a</i> Birmingham		<i>d</i> Harley	<i>a</i> Long Eaton	<i>d</i> Rochdale	<i>d</i> Torquay
<i>d</i> Birmingham	<i>a</i> Dalton-in-Fur-	<i>d</i> Harrogate	<i>h</i> Long Melford	<i>a</i> Rodley, near	<i>d</i> Torquay
<i>d</i> Birmingham	<i>a</i> ness	<i>d</i> Hastings	<i>h</i> Loughborough	<i>d</i> Leeds	<i>d</i> Torquay
<i>s</i> Birmingham	<i>d</i> Darlington	<i>h</i> Hastings	<i>a</i> Lythe, Whitby	<i>d</i> Romford	<i>h</i> Tring
<i>d</i> Blackburn, Lancs.	<i>h</i> Dartmouth	<i>s</i> Havant		<i>d</i> Royston	<i>d</i> Tunbridge Wells
<i>h</i> Bodiam	<i>a</i> Devizes	<i>d</i> Hereford	<i>a</i> St. Agnes	<i>d</i> Ryde, Isle of	<i>a</i> Tynemouth
<i>h</i> Bodmin	<i>h</i> Dingwall, N.B.	<i>d</i> Herne Bay	<i>h</i> St. Asaph	<i>h</i> Ryde	<i>s</i> Uttoxeter
<i>h</i> Bonar Bridge	<i>a</i> Doncaster	<i>h</i> Hexham	<i>d</i> St. Bees		<i>a</i> Ventnor
<i>h</i> Boro' Bridge	<i>d</i> Douglas, Isle of	<i>h</i> Holbeach	<i>a</i> St. Helens	<i>a</i> St. Agnes	<i>h</i> Wadebridge
<i>d</i> Bournemouth	<i>a</i> Man	<i>d</i> Huddersfield	<i>d</i> St. Heliers	<i>h</i> St. Asaph	<i>d</i> Wakefield
<i>d</i> Bournemouth	<i>a</i> Douglas, Isle of	<i>a</i> Hull	<i>a</i> St. Ives	<i>d</i> St. Bees	<i>h</i> Warwick
<i>d</i> Bradford	<i>a</i> Man	<i>d</i> Hull	<i>d</i> St. Leonards	<i>d</i> St. Helens	<i>a</i> Waterford
<i>d</i> Bradford	<i>h</i> Douglas, Isle of	<i>d</i> Hull	<i>h</i> St. Mellons	<i>a</i> St. Ives	<i>d</i> Waterford
<i>d</i> Bradford	<i>a</i> Man	<i>d</i> Ilfracombe	<i>h</i> St. Neots	<i>d</i> St. Leonards	<i>a</i> Wellington,
<i>d</i> Bramley, near	<i>d</i> Dover	<i>d</i> Ipswich	<i>d</i> Sandgate	<i>h</i> St. Mellons	<i>s</i> Salop
<i>h</i> Leeds	<i>d</i> Dover	<i>s</i> Ipswich	<i>d</i> Sandown, Isle of	<i>h</i> St. Neots	<i>s</i> West Hartlepool
<i>h</i> Brechin, N.B.	<i>d</i> Dublin	<i>d</i> Jarrow	<i>d</i> Wight	<i>d</i> Sandown, Isle of	<i>d</i> Weston-super-
<i>d</i> Brechin, N.B.	<i>h</i> Dublin	<i>d</i> Jersey	<i>a</i> Scarborough	<i>d</i> Scarborough	<i>Mare</i>
<i>d</i> Bridlington Quay	<i>h</i> Dunblane, N.B.		<i>d</i> Scarborough	<i>d</i> Scarborough	<i>d</i> Weston-super-
<i>d</i> Bridlington Quay	<i>h</i> Dundee	<i>d</i> Keighley	<i>d</i> Seddlescomb,	<i>h</i> Scarborough	<i>Mare</i>
<i>h</i> Brigg	<i>d</i> Dundee	<i>d</i> Keighley	<i>h</i> near Battle	<i>d</i> Scarborough	<i>h</i> Wetwang, York
<i>d</i> Brighton, Hove	<i>a</i> Dungaeravan	<i>s</i> Kendal	<i>a</i> Shaftesbury	<i>d</i> Whitby	<i>d</i> Weymouth
<i>h</i> Brighton	<i>a</i> Duns	<i>a</i> Kimberley	<i>d</i> Shanklin, Isle of	<i>d</i> Whitby	<i>d</i> Whitby
<i>d</i> Brighton	<i>d</i> Durham	<i>d</i> King's Lynn	<i>d</i> Wight	<i>d</i> Wimbledon	<i>h</i> Windsor
<i>d</i> Bristol	<i>h</i> East Grinstead	<i>a</i> Kingstown,	<i>s</i> Sheffield	<i>d</i> Windsor and	<i>d</i> Eton
<i>d</i> Bristol	<i>h</i> Ebbw Vale	<i>d</i> Dublin	<i>d</i> Sheffield	<i>d</i> Wisbech	<i>d</i> Wisbech
<i>d</i> Bristol	<i>d</i> Edinburgh	<i>h</i> Lancaster	<i>d</i> Sheffield	<i>a</i> Wolverhampton	<i>a</i> Wolverhampton
<i>h</i> Broadway,	<i>d</i> Edinburgh	<i>d</i> Lancaster	<i>h</i> Shepton Mallet	<i>a</i> Worcester	<i>h</i> Worthing
<i>h</i> Worcester	<i>d</i> Edinburgh	<i>d</i> Larne	<i>d</i> Shrewsbury	<i>d</i> Worthing	<i>d</i> Worthing
<i>d</i> Bromley	<i>d</i> Edinburgh	<i>d</i> Leamington	<i>h</i> Sleaford		
<i>h</i> Brough	<i>d</i> Edinburgh	<i>h</i> Ledbury	<i>h</i> Southampton		
<i>s</i> Burnley	<i>s</i> Egremont	<i>d</i> Leeds	<i>d</i> Southampton		
<i>d</i> Burslem	<i>a</i> Enfield Town	<i>d</i> Leeds	<i>h</i> Southend-on-Sea		
	<i>a</i> Evesham	<i>d</i> Leeds	<i>a</i> Southport		
<i>h</i> Callender, N.B.	<i>d</i> Exeter	<i>d</i> Leicester	<i>d</i> Southsea		
<i>h</i> Camborne		<i>d</i> Leicester	<i>s</i> Southsea		
<i>d</i> Cambridge		<i>a</i> Leicester			
<i>h</i> Cambridge		<i>a</i> Lenzie, N.B.			
<i>h</i> Capel-Curig, N.W		<i>d</i> Leytonstone, Es-			
<i>a</i> Chalfont St.		<i>d</i> Lincoln			
<i>a</i> Peter		<i>d</i> Liverpool			
<i>d</i> Cheltenham	<i>s</i> Falkirk				
<i>d</i> Cheltenham	<i>d</i> Falmouth				
<i>d</i> Cheltenham	<i>d</i> Faversham				
<i>d</i> Cheltenham	<i>d</i> Felixstowe				
<i>d</i> Cheltenham	<i>d</i> Finchley				
<i>d</i> Chester	<i>h</i> Fochabers, N.B.				
<i>d</i> Chester	<i>d</i> Folkestone				

NOTE.—*a* amateur; *d* dealer or professional; *h* hotel; *s* society.

THE "Art and Practice of Interior Photography," by F. W. Mills, is an expansion of a lecture intended to have been read before the Huddersfield Photographic Society, and is illustrated by prints from the writer's negatives. The subject is treated exhaustively and clearly by one well acquainted with it. The writer begins with a description of the apparatus best fitted for interior photography, and then goes on to deal with exposure with a table of average exposures, and also figures giving graphically an idea of the actinic power of light after passing respectively through blue, green, yellow, and ruby glass. In the chapter on orthochromatic work various formulæ are given for making plates orthochromatic. Other chapters follow on development, fog, etc., printing on paper and fabrics, platinotype, autotype, mounting, etc. The book is well worthy the perusal of those who intend to practice interior photography.

Exhibitions.

EXHIBITION OF PHOTOGRAPHS AT HEXHAM.

PERHAPS the most remarkable "one-man" exhibition ever held has been on view in the Town Hall of the quaint old market-town of Hexham (commonly known as the heart of all England).

The show consists of over 400 photographs of Northumbrian scenery and antiquities, ranging from whole-plate to 15 by 12, mostly printed by the platinum process, which in Mr. Gibson's hands lends itself most admirably to artistic effect.

Mr. Gibson is an ardent antiquarian, whilst as a landscape photographer he has stood in the front rank for many years. This being said, it seems unnecessary to state that the standard of the exhibition is high, and that the work shows evidence of thought and tender care throughout.

The technique, as might be expected from such a careful worker, is thoroughly good, except in a few of the architectural subjects in which the effect of the harmless (?) necessary wide-angle lens is somewhat unpleasantly manifest.

While some of the subjects possess only a local and archæological interest, they are treated in the same careful, artistic manner as his well-known landscapes.

Entering the Town Hall, we find photographs illustrating Northumbrian architecture from prehistoric down to modern times, instantaneous street scenes, views of black moorland and of the sylvan and romantic scenery of the Tyne and its tributaries, which Mr. Gibson has made peculiarly his own.

With so many pictures on view by such an acknowledged master in our art, it would be difficult to attempt a lengthened detailed criticism, but we propose to single out a few for special comment. The 15 by 12 first claim our attention, and a long way ahead stands No. 269, "Autumn Haze," a charming view on the South Tyne, with the distance beautifully softened by perfectly rendered haze. Another feature is a choice bit of foreground of reeds and rocks, with figures judiciously introduced. Coming next is 267, "Under the Haycock, Fast Asleep," in which the foliage in the middle distance is exceptionally fine, and the figures from which the picture takes its title are placed naturally and without any straining after effect. In No. 268, "September," we have a reach on the South Tyne (beautifully treated), a piece of pure landscape art, with gleams of sunshine playing on the water at the bend of the stream, and a gnarled old oak standing out in bold relief.

Coming to the whole-plate series, the task of selection becomes much more difficult. Our own feeling is that No. 82, "At Ladle Wells," is the choicest and most artistic pure landscape in the whole exhibition. It represents, with startling realism, a desolate, barren moorland; rushes and burnt heather make up the foreground; two trees, bare and bleak as the surrounding heather, stand out weirdly against the wintry sky, the whole forming the finest and, withal, simplest picture we have ever seen.

No. 36, "By the Brooklet," is of its kind a gem, which shows how a simple subject may be aided by artistic feeling in placing figures as aids to the composition.

No. 65, "Out for a Holiday," an otherwise fine work, is slightly marred by too much white road, which exercises a somewhat disturbing effect.

In No. 69, "The Beautiful River," the subject does not belie the title; a splendidly balanced picture, with most artistic foreground. No. 159, "The Wind that Stirs the Mere," is another scene of loneliness—a small Northumbrian lake. Here again the materials are simple—a crag and a sunlit expanse of water, broken up into ripples by the wind, with the foreground and sky, two of Mr. Gibson's strong points, alike admirably treated; so treated, indeed, as to make the picture.

Space does not admit of further individual notice, although many pictures merit it. In this category may be included 39, "Old Ridley Bridge;" 55, "Coastley Burnfoot;" 57, "The Lonely Moor;" 76, "Hindley Burn;" 99, "Tickling the Trout;" 342, "Waiting;" and 222, "The Thief's Syke." This last is a vigorous subject, vigorously treated; larch trees against the sky, with a finely broken-up foreground.

The architectural subjects, as subjects, do not call for special comment, but locally, of course, are very interesting.

The salient feature of the series is the fact that by proper handling, the careful study of lighting and judicious selection of

clouds, what in many cases would have been ordinary photographs are transformed into works of art.

Summing up, the effect produced upon our minds by this splendid and unique exhibition is one of unmixed pleasure and admiration of the thoughtful adaptation of means towards ends displayed in many of the works here shown.

Societies' Meetings.

BRAMLEY AND DISTRICT PHOT. SOC:—The monthly meeting was held on the 3rd inst. A paper on "Exposure" was read by Mr. J. W. Nicholson, and a short discussion on the subject followed, in which several members took part. Considerable interest was shown in the exhibition of Whitsuntide holiday work which many members produced. The Secretary exhibited "Watkins' Exposure Meter," which, together with specimen photographs and literary matter, had been sent by the inventor for the Society's inspection. It was intimated that the Committee would receive prints from month to month for the Society's album. Next meeting will be occupied by Mr. F. Young on "Development."

CAMBRIDGE CAMERA CLUB.—A meeting of this club was held at the "Bird Bolt Hotel," on the 30th ult., Mr. F. H. Sanderson in the chair. The President having invited an excursion of the club to Duxford, and promised a prize of a silver cup for best photographs taken in the village, the offer was accepted with loud applause. The offer of the *Cambridge Daily News* to give a prize for the most meritorious work was also received in like manner. Mr. A. Hardy read a paper on "The Advantages of Photography," which was warmly discussed. A vote of thanks to Mr. Hardy for his paper, and to the Chairman for presiding, brought the enjoyable evening to a close.

CROYDON CAMERA CLUB.—Ordinary meeting, Monday, 9th inst., the President in the chair. Six new members were elected. Two new rules, as approved by the Council, were discussed and confirmed. The President announced the following achievements of members since last meeting:—A record in development (described in *AMATEUR PHOTOGRAPHER* of 23rd May), the gaining of honourable mention by Mr. Blow, in *AMATEUR PHOTOGRAPHER* "Monthly Competition;" the initiation by a member of a course of twelve lectures on Photography at Whitgift Schools. The following future arrangements were announced: Mr. E. F. Blow conducts a ramble to Leatherhead, on Saturday, 14th June, starting from West Croydon station at 2.48; the President conducts a party of members to The Grange, Wallington, to visit and photograph "My Garden" (by kind permission of Mr. A. H. Smee, F.R.S., etc.), on Saturday, 21st June, starting from West Croydon Station by 2.48 train; Mr. C. Hussey has kindly promised to read a paper on lantern slides during winter session. A number of prints from fresh negatives were shown, also several meritorious enlargements. The third demonstration in development was fixed for Wednesday, July 9th; the fourth demonstration will be held on 16th July, at Mr. Bishop's. Particulars of Assistant Secretary.

DARLINGTON PHOT. SOC:—The ordinary meeting was held on the 9th inst. Mr. G. Newby Watson presided. Mr. H. W. Hollis read a paper on the "Pizzighelli Process," which was much appreciated. Rev. C. G. Davis read a most interesting paper on "Stripping Films." Both gentlemen illustrated their subjects with specimens of their work, which were much admired.

EAST DULWICH AND PECKHAM PHOT. SOC:—At a meeting held on the 6th inst., the President in the chair, the camera and lens purchased by subscription for the purpose of being loaned to members of this Society was on view. The camera is one of Lancaster's 12 by 10, brass bound, and is a strong, serviceable instrument, the lens (which is of more importance than the camera) being one of C. Burr's well-known make. The camera and lens were taken by the members on the Whit Monday excursion to Pangbourne, and a very satisfactory group was obtained of those members and friends present. During the evening some fine views taken on this excursion were shown by Messrs. Kelly and Greaves, the latter gentleman having been very successful.

HEREFORDSHIRE PHOT. SOC:—A field-day was held on the 5th inst. at Kerne Bridge, Symond's Yat, and the valley of the Wye. The members were met at Kerne Bridge by Alderman Blake, who had kindly provided a boat, and took several of the party to Symond's Yat by water. The remainder visited Goodrich Castle, where they

were met by Rev. D. Seaton, who very kindly acted as guide. Several plates were exposed on the Castle and the Court, a few having the privilege of visiting the Large Hall at Goodrich Court by kind permission of Mr. H. C. Moffat. In the afternoon several members visited the Yat and most points of photographic interest.

HOLBORN CAMERA CLUB.—The usual weekly meeting was held on Friday, 6th inst., when about thirty members assembled to see a demonstration and hear a few words about Alpha printing by Mr. John Howson, of the Britannia Works. After a hearty vote of thanks to the Britannia Company in general, and Mr. Howson in particular, with which was also offered and accepted hon. membership of the club, the meeting was brought to a conclusion.

HOLMFIRTH AM: PHOT: SOC.—The monthly meeting of this society was held on the 6th inst. Members exchanged prints, and a discussion as to their merits followed. An excursion to Cawthorn was decided upon, to take place on the 25th inst.

LEWES PHOT: SOC.—The monthly meeting was held on the 6th inst. The prints sent in to the quarterly competition were on view. Mr. N. S. Starns kindly undertook to act as judge, and attended the meeting specially to explain the merits and demerits of the various prints submitted to him. The certificates in Classes 1 and 2 were both awarded to Mr. G. J. Wightman, who was congratulated by the members for securing both the awards. The President then called on Mr. Wightman, who recounted his twelve months' experience as an amateur photographer, in a very amusing and interesting manner. In the course of his remarks he said he owed his success to the Society, and he advised all who wanted a healthy and instructive hobby to take up photography.

NORTH LONDON PHOT: SOC.—A meeting was held on Tuesday evening, June 3rd, Mr. Hart in the chair. The Secretary read the report of the sub-Committee appointed to select a new room for the meetings of the society, and it was decided upon this report to engage a very suitable room at Wellington Hall, and after the next meeting, on June 17th, the society will remove to its new quarters. It having been decided upon this evening to hold an exhibition of camera-stands and photographers' out-door outfits, several firms had, upon the invitation of the Council, sent exhibits for the inspection of the members. A hearty vote of thanks was passed to all those who had sent goods for exhibition, and it was unanimously agreed that the show was a great success. A vote of thanks was also accorded to Mr. Hart for presiding, and for his promise of the gift of one of his new stands to the society. The next meeting of the society will be on Tuesday evening, June 17th, which will be a technical evening, and the last gathering of the society in Myddleton Hall.

OXFORD PHOT: SOC.—The last meeting was held on the 5th inst., Mr. E. A. Ryman-Hall in the chair. Mr. H. M. Phillips gave an interesting description of the cold-bath platinum process, and developed several prints. He considered this process to be the best form of printing photographs. Discussion on this and kindred subjects afterwards took place. Several members brought their results of the Whit Monday work at Pangbourne. The next excursion will be to Culham on Thursday afternoon, June 19th.

SHEFFIELD PHOT: SOC.—The monthly meeting was held on the 3rd inst., Mr. B. J. Taylor in the chair. Mr. T. G. Hibbert gave a practical demonstration on "Kallotype Printing Process." He said Kallotype, being much more sensitive than ordinary silver paper, care is required in printing, to fill frames in a yellow light or weak daylight, also not to examine them out of doors as with ordinary sensitive paper. He then proceeded to develop some prints. It was agreed that as yet it was not superior, if equal to the platinotype process, but would no doubt be considerably improved.

SOUTHSEA AM: PHOT: SOC.—An ordinary meeting was held on June 4th, Lieut. F. W. Cobb, R.N., in the chair. The Hon. Secretary (Dr. F. Lord) read a letter received from Mr. Griffin, asking if the Society would contribute to an art exhibition to be held in aid of the hospital, and that if so, a small room would be set apart for exhibiting. Mr. J. J. Thornton kindly undertook to make enquiries about the proposed arrangement, and to bring the matter before the next Committee meeting. Mr. G. C. Inkpen then read a paper on "Hand Cameras." He divided these into three groups, viz., (1) roll-holders, (2) dark-slides, (3) automatic changing; and gave numerous illustrations of each type on the board, explaining the various forms and the means for changing plates. Mr. Inkpen also showed a model of his patent one-movement camera, made for twelve ordinary quarter-plates or

twenty-four cut films, the plate being changed and the shutter reset in one motion. The construction of the camera is very simple, but effective, and awaits a manufacturer to take it up.

STAFFS. POTTERIES AM: PHOT: SOC.—At the usual monthly meeting, held on the 3rd inst., arrangements were made for two excursions during the month to Wall Grange and Cheddleton, and Great Haywood, after which Mr. E. B. Wain read a paper on "Art Photographs," with special reference to the composition of pictures. The various laws of perspective, balance, light and shade, etc., were very clearly explained by means of diagrams and prize photographs. The paper concluded with some very useful and practical hints on the mounting and framing of photographs.

TUNBRIDGE WELLS AM: PHOT: ASSO.—The ordinary monthly meeting of the above association was held at the Mechanics' Institute, on Thursday, the 5th inst., the Rev. A. T. Scott, one of the Vice-Presidents, in the chair. Mr. Lewis kindly offered to present a copy of Dr. Emerson's "Naturalistic Photography," which offer was much appreciated, as was also one from Mr. Burton of a landscape painting, done by himself, for competition by members at the next exhibition. The Hon. Secretary then explained his proposition for making some lantern-slides on the same lines as the Boston set of U. S. A. He suggested that two sets be made, one to be given to an American society, and one to be on loan to societies in England, and that members contributing should jot down anything of interest that related to the slides prepared by them, which would form a nucleus for the lecture that is to accompany the slides, which Mr. Brampton had kindly offered to prepare. The proposer estimated that there would be as many as eighty slides in a set, which would include all the points of interest in the town as well as the principal historical places round the district, such as Eridge Castle, Penshurst Place, Hever Castle, Ightham Mote, Bayham Abbey, Scotney Castle, etc. To some of these places members had had excursions, permission having been kindly granted by the owners, and they had secured some negatives which would be of service in preparing for the lecture. It will practically be a survey of the town and district, and a collection of the prints of the above in an album would form an important souvenir of Tunbridge Wells. It will also contain a reproduction of some old prints and engravings, and will form a link between the past and present, the accompanying text adding to the interest. The proposition being put to the meeting was carried unanimously. Mr. Pierson showed, by desire, Rayment's patent camera, which was much admired for its simplicity and good workmanship. Mr. Cassingham brought one of Ashford's new three-fold stands, which was remarkably firm. After some prints had been handed round for inspection, and some negatives of a view which had been developed respectively with pyrogallol, hydroquinone, and eikonogen, an interesting discussion took place as to their merits. The meeting closed with a vote of thanks to the Chairman.

WEST SURREY AM: PHOT: SOC.—The members met at Crichton Hall, Clapham Junction, on the 4th inst., but owing to its being "Derby" night only about twenty were present. The subject for the evening was "Gelatin-chloride Printing Processes," by Mr. G. H. James. The matter was treated in a practical way, and the demonstrations watched with much interest. The next outing (Saturday, 14th) will be to Boxhill and Burford Bridge.

DRESDEN.—A correspondent writes us: "A dealer here, C. F. Bernhardt, Palais Gutenberg, by the Café König, has a dark-room fitted up for his own use, with gas, water, etc., and will be pleased to allow tourists the use of it for changing plates, developing, etc." The same correspondent adds, "I believe it is not generally known that the foreign size, 16 by 12½ centimetres, exactly fits an English half-plate slide."

"INVENTIONS, AND HOW TO PATENT THEM" is the title of a little hand-book dealing practically and exhaustively with this subject. It goes through the whole of the steps necessary, from the making out of the specification to obtaining the final patent, and being written by a barrister (Mr. T. Eustace Smith), the law on the matter is very clearly stated, and the decisions on the various points referred to with chapter and page, so that those interested may at once find the records of the whole case. The book has reached the third edition, and is brought up to date, and these facts are sufficient evidence of its usefulness to recommend it to persons desirous of becoming patentees.

To Correspondents.

THE insertion of **QUERIES** and **ANSWERS** is attended with much labour, and it is requested that the questions asked and the answers given shall be short and to the point. No charge is made.

All communications for these columns are to be addressed to **The Editor, "Amateur Photographer," 1, Creed Lane, Ludgate Hill, London, E.C.**

RULES.

1. Write clearly and distinctly on one side of the paper only.
2. Write each Query or Answer on a separate sheet of paper.
3. Write the name and address legibly on the back of each communication, and sign all Queries and Answers with name or *nom de plume*.
4. All matters for these columns **MUST** be received by **TUESDAY MORNING'S POST**.
5. The Editor does not undertake to answer questions by post.
6. In answering Queries, correspondents are requested to mention, in every instance, the *number and full title of the query* referred to.

QUERIES.

3885. View Finder.—Will anyone kindly tell me how to make a small view-finder for quarter-plate camera?—**PIVOT.**

3886. North of Scotland.—I am anxious to spend a few weeks with my wife photographing at some quiet place in the north of Scotland, or in one of the islands on the north-west coast. Could any of your readers tell me of a comfortable farm-house or lodgings in a pretty neighbourhood where we could stay?—**SCOTLAND.**

3887. Rapid Doublet.—I have a Fallowfield's 5 by 4 rapid doublet lens, and want to use the back combination for larger pictures in long-extension camera. What will be the effect upon its rapidity? In its present form it works well with an ordinary go-and-return shutter. Will someone kindly say, supposing picture to be correctly taken, with one second's exposure, using the lens as a doublet, what difference should be made in exposing on the same subject, under same conditions, as to light, etc., using back combination only?—**BRANKSOME.**

3888. Developing Detective Plates.—Would any brother photographer kindly tell the cause why the top part of plate should come out quite clear, while the bottom remains quite misty? I use hydroquinone developer, and with my half-plate camera I can bring them out clear all over.—**PROVINCIAL.**

3889. Eikonogen.—Should be glad of a good formula for Eikonogen developer (given in English quantities) for negatives, and to know if it is workable when made up in one solution only?—**IKE-ON-AGAIN.**

3890. Sulpho-Pyrogallol.—What is the formula of Berkeley's sulpho-pyrogallol?—**LEANDER.**

3891. Bromide Emulsion.—Will any of your readers kindly tell me the way to clean glass plates ready to receive bromide emulsion? Also method of melting and applying same?—**ZINCO.**

3892. Payne's Formula of hydroquinone developer wanted.—**ZINCO.**

3893. Adapter.—Can anyone kindly inform me as to the uses of an adapter, an accessory not mentioned in the "Dictionary of Photography"?—**PRONO.**

3894. Crystoleum.—Will some brother amateur kindly give me some hints as to crystoleum painting, and especially whether any particular make of sensitised paper is to be preferred when printing the photographs?—**PRONO.**

3895. Fallowfield's Hand-Camera.—Can some one who uses this camera tell me which stop ($f/8$, $f/11$, $f/16$, $f/22$), with Ilford white label plates, I ought to use for objects in motion about 20 ft. off? I used $f/16$, but detail not satisfactory. Also, for further distances would you use a larger or smaller stop?—**M. Y. S.**

3896. Gt. Yarmouth and Lowestoft.—Would someone kindly tell me the best photographic haunts in the neighbourhood of Yarmouth and Lowestoft? Which of these two places is most suitable as a centre for photographic excursions? Is this a good district for photography?—**C. G. L. C.**

3897. Whole-Plate Lens.—What is the best cheap whole-plate lens to get for camera?—**G. GILSON.**

3898. Eikonogen.—Is eikonogen better than pyro developer for Ilford ordinary plates?—**G. GILSON.**

3899. Platinotype Gold Bath Process.—Can platinum bichloride be used? What is the differ-

ence between platinum bichloride and platinum salts, as spoken of by the Platinotype Company?—**A. B.**

3900. Most Rapid Lens.—Will anyone kindly inform me which is the most rapid lens, a single or a double, both working at $f/8$, and why?—**LENS.**

3901. Dunoon.—Will any amateur let me know the places worth photographing about Dunoon? Also the best time and place for taking the steamers passing? Any information will be gladly received.—**J. MONTGOMERY.**

3902. Stops.—What are the Nos. of the stops supplied with Lancaster's Silver-Ring Rectigraph? What are the best size stops to use for (1) landscape, (2) seascape, (3) architecture?—**ALPHA.**

3903. Dark Slides.—Would some reader kindly tell me whether Tylar's metal dark slides are reliable?—**BEGINNER.**

3904. Gloss.—Will someone kindly tell me the best way to get a nice gloss on prints?—**AMATEUR.**

3905. Sky.—I have taken several views, and, on development, find about one-third of the plates fogged always when I take in the sky in the view. What is the cause, and how to avoid it? Sun, if any, been on side or back.—**A. G. MILLER.**

3906. Burnham, Somerset.—I should be glad if any of your readers could give me any information about this neighbourhood, whether there are many places of photographic interest in the neighbourhood, and if the place is bracing?—**W. H. WHITTARD.**

3907. Lens, Objective Only.—Can any reader inform me where I can buy a quick-acting single lens, about $\frac{1}{4}$ in. focus, to cover quarter-plate, and about the cost? Please quite understand (no mount), only glass lens, that I can fit into hand-camera. The lens I have of Lancaster's seems to act quite equal to my R.R. Optimus of Perken, Son, and Rayment.—**VALENTINE CHARLES.**

3908. Eikonogen.—Please give me a good Eikonogen to work with Ilford's ordinary plates (time exposure), using soda or potash carbonates, or both?—**J. P.**

3909. Ingleton and Settle.—Can any brother amateur tell me if there is a reliable dark-room at Ingleton and Settle?—**WATERLOO.**

3910. West of Ireland.—Wishing to take a tour round the West of Ireland by rail and coach, I should be glad to receive from any fellow-reader who has visited that country any hints where pretty scenery, any ruins, or other objects of interest may be found for photographing on quarter-plate films?—**J. ATKINSON.**

3911. Glasgow and Inverness.—Amateur would appreciate any hints as to shots (available by steamers stopping, etc.), places to stop at, etc.? For a six days'—not too expensive—outing, from Glasgow to Inverness and back, what would be probable cost?—**HALF-PLATE.**

QUERIES UNANSWERED.

Mar. 7th.—Nos. 3528, 3551, 3554, 3556.

21st.—Nos. 3585, 3587, 3593, 3595, 3596, 3612, 3614.

28th.—Nos. 3634, 3636, 3640, 3643, 3653.

April 4th.—Nos. 3661, 3664, 3674, 3677.

11th.—No. 3694.

18th.—Nos. 3708, 3718.

25th.—Nos. 3727, 3731, 3735, 3736, 3742, 3744, 3747.

May 2nd.—Nos. 3758, 3767.

9th.—Nos. 3793, 3795.

16th.—Nos. 3805, 3808, 3814, 3820, 3822, 3823, 3824, 3826.

23rd.—Nos. 3827, 3828, 3829, 3834, 3839, 3840, 3841, 3842, 3843, 3845.

30th.—Nos. 3852, 3854, 3857, 3858, 3860, 3862, 3865, 3866.

June 6th.—Nos. 3870, 3872, 3874, 3878, 3893, 3884.

ANSWERS.

3839. Lizard.—There is a dark-room at one of the two hotels at the Lizard. I have quite forgotten the name of the hotel in which it is, but if you refer to the Cyclists' Touring Club's Guide, you will find it there. I don't know if developing can be done, but should "F. A. R." be at Penzance during his visit to Cornwall, I shall have great pleasure in lending him a dark-room for changing or developing. Address with Editor.—**H. TONKIN.**

3871. Weymouth.—"Leo" will find plenty of "choice bits" here for the camera, viz., Upwey "Wishing Well," about two miles through a lovely country; Weymouth Sands, which is full of life on a fine day; "shots" at the steamers running, about every hour; Sandfoot Castle ruins, about a quarter of a mile distant; swans feeding (about 200) on the Backwater, and scores of "choice bits" within easy distance. "Leo" will find a very great help in Mr. Smith, at Smith's Supply Stores, who is always willing and ready to help amateurs in choosing, and as regards light. He can there always get plates and anything connected with photography at same prices as in London.—**AMATEUR.**

3873. Glass.—Squeegeeing is placing the wet print face down on glass, and pressing into optical contact with the glass—i.e., no air between. When dry, the print leaves its temporary support with a high polish.—**GREENWOOD.**

3875. Hastings.—Before asking the readers of this paper about a dark-room at Hastings, why do you not write to the Editor, who has taken a very great deal of trouble in printing a long list of names of towns where dark-rooms are at the disposal of the readers of this paper, bringing an introduction card from the Editor? He has two different dark-rooms on the list, as you can see for yourself.—**W. A. J. CROKE.**

3875. Hastings.—There are only two dark-rooms at Hastings, one by the Memorial whose name I do not know, and the other whom I should advise you to go to, both for cheapness and attention. It is not more than ten minutes from the pier, next to the hot-water baths. It is a chemist's, by name Teaver. But why not write to the **AMATEUR PHOTOGRAPHER** for their register of dark-rooms? They have two down for Hastings. It would be a much better plan.—**JOHN H. MONTAGU.**

3876. Lowestoft.—Ilford plates can be had from A. Wright, chemist, High Street.—**J. H.**

3877. Toning Bath.—I would suggest "C. H. T." try the borax bath, thus:—

Borax	...	...	...	...	50 grs.
Gold	...	...	...	...	1 gr.
Water	...	...	...	...	10 ozs.

Use slightly tepid, say about 70 degrees Fahrenheit. This may be used at once, and will keep fairly. It gives very nice purple brown tones.—**GREENWOOD.**

3879. Enlarging and Enlargements.—The Alpha paper developer will be too much restrained for bromide paper.—**J. H.**

3879. Enlarging and Enlargements.—"MCCC." might manage it. Block out a north window all but a space the size of negative. This may be done with laths and brown paper. Fix negative in opening, and place camera back, open, in contact, excluding light with a black cloth. To enlarge a half-plate to 15 by 12, assuming the lens to be 8 ins. focus, it would want to be about 23 ins. from the paper, and about 11 from the negative. Ordinary sensitised paper would take weeks to print; it is quite out of the question. No need to cut your dark slide. You might put negative in it, and pull out both shutters. Alpha developer is too weak for bromide paper. The proper formula is:

Pot. oxalate, sat. sol.	...	...	...	6 parts.
Ferrous sulphate, sat. sol.	...	...	...	1 part.
Bromide of potassium	...	...	...	trace.

N.B.—Put tracing cloth on window to diffuse light evenly.—**GREENWOOD.**

3880. Quickest Dry Plates.—I am surprised you have found neither of the plates you mention quick enough. Yours must be a very small aperture. Try Paget Prize Plates or Isochromatic instantaneous.—**W. A. J. CROKE.**

3880. Quickest Dry Plates.—Use Fry's by all means, or Edwards'.—**JOHN H. MONTAGU.**

3880. Quickest Dry Plates.—Both the Paget 60-times and the Mawson plate are suitable for shutter work, and faster than those you have used.—**MELCHIOR.**

3881. Isochromatic Plates.—The prices are about 50 to 75 per cent. higher than Ilford ordinary; thus 5 by 4 are 3s. a dozen. They are in two rapidities; the slow are said to give more isochromatic effect than the rapid.—**GREENWOOD.**

3881. Isochromatic Plates.—Edwards' Isochromatic plates are manufactured in three degrees of speed—slow, medium, and instantaneous. You ask for the price, but mention no size. It may help you to know that $\frac{1}{4}$ by $\frac{3}{4}$ are 2s. 3d.; $\frac{1}{2}$ by $\frac{1}{2}$ are 4s. 6d.; 12 by 10, 11s. 3d. For further particulars I must refer you to page 125 of Fallowfield's 1890 "Annual," where you will find fuller prices and several good developing formulae.—**W. A. J. CROKE.**

3882. Residues.—It is really not worth the trouble caused unless done in very large quantities.—**W. A. J. CROKE.**

EDITORIAL.

NOTE.—Anyone requiring an opinion upon photographic apparatus, plates, etc., must give a number or initial for identification, as in no case will makers' names be inserted in this column.

SPECIAL NOTICE.—We are very pleased to find that replies in this column are so much appreciated, but we should be very grateful if those requiring advice would send their letters to us BEFORE TUESDAY MORNING'S POST if possible. The time occupied in replying in this column is very considerable, and owing to the often late receipt of letters, many matters have to be left over each week. This we much regret.—**ED. AM. PHOTO.**

E. H. GILBERT.—We know nothing against the "mountant," will you let us see a sample?

M. S. P.—We place them in the following order, A, D, F, B, C, E. The one used by the worker you name has been designed by himself, and made specially for him; as far as we know, it is not in the market.

WINCHESTER.—A letter has been sent us in error, only signed "Duncan," we cannot therefore send on only same.

LAUREL.—We are doing all in our power to impress upon dealers and others the necessity of being more prompt in the execution of orders, etc., and sympathise with you, and regret to hear of the inconvenience.

J. R. M.—Your letter with slight excisions is inserted, because it proves how just we are in our accusations.

ERNEST WINN.—You will note we have made use of the information, and will add the name to our list with much pleasure; glad to hear that you are succeeding so well.

T. BAKER.—Have written you; why not send us an article "How we Bought a Camera"?

ARTHUR JANE.—The print is in very good condition, and has retained its colour wonderfully.

L. CATOR.—Nothing just at present; yours can be returned if you wish. A capital article upon Lowestoft and district has been published; see AMATEUR PHOTOGRAPHER, vol. viii., August 31st, 1888.

J. A. S.—You cannot do better than follow the very complete instructions given in the AMATEUR PHOTOGRAPHER for May 30th, under the heading "Printing in Gelatine-Chloride."

E. M. HAMILTON.—Your MS. will be typed and proof sent you.

QUID.—A: not very. B: the R.R. is a good lens, covers well, and gives good definition. C: not as good as A, which has a capital shutter; the lenses are probably the same make.

CECIL SHAW.—Certainly was overlooked, will send on later.

LENS.—We insert as a query.

J. P.—Question No. 1: in the following order, 8, 4, 1, 7, 2, 5, 6. The second question will be found in our "Query" column, as you will doubtless obtain particulars from some one who has used Eikonogen with the plates named.

G. R. FELL.—Write to the Secretary of the Leytonstone Epping Forest Photographic Society, Mr. Joseph W. Spurgeon, 1, Drayton Villas, Leytonstone, Essex.

X. Y. Z.—In answer to your letter. A is as good as you can get for the money. B: cannot say. C: yes. D: the camera you name is one of the best made in the market, and is certainly better than A. E: the best lenses are 3, 7, 9, but you know that you do not intend to buy either of them because of the price. 1 and 2 are both good lenses; in fact, all you name are tried lenses, and the No. 4, which you probably intend to buy, will give you good results. R.R. lens will be best suited for your purpose. Heaps of work has been sent to our competitors which has been done with the cameras you name, and the lens 4. We should advise you to buy direct, and not through an agent.

W. A. PICKNETT.—We have seen all the cameras, and could wish that those sold to the public were up to the samples sent to us for inspection. If you could rely upon B being properly finished, by all means go in for it; it has many good points. We should advise lens 3. F is a good camera, is well made, and has many advantages. The lens we have named is expressly made for hand-camera work; it would, perhaps, be best for you to have an R.R. lens of the ordinary type.

E. GRAHAM.—We shall notice the camera next week, the maker having sent us one for trial. Either A or B are very well made cameras. The lens may not fit the mount, should there be one sent with the camera; but probably there will be no mount, and you will pierce the front and fit on the flange or mount. The lens you have selected is a good all-round instrument, and the tripod cannot be surpassed.

B.—Really we are afraid we cannot help you; they are expensive, and have not all the advantages advertised. You might try Morley, Islington, or Lawley, Farringdon Street.

R. CASH.—We really cannot help you, but should say knock off about 30 per cent. The box camera is really worth nothing. The first lens is, in good condition, worth a fair price, the other will only fetch a few shillings.

FRED DAVIES.—"F. G. S." has drawn attention to the error.

PARISIAN AMATEUR.—Certainly, B. W., which is first-class; we should advise you to write to the makers, and ask them if the lens will cover the angle you require. We would also advise you to procure Dallmeyer's "On the Choice and Use of Photographic Lenses." Your questions require more space than we can give in this column.

M. C. C. C. LUDER.—The best plates are 4, 3, 9, 14, 1. Of the other eleven named, Nos. 11 and 15 are now on the market; 13 we know nothing of, and the others we place in the following order:—2, 5, 7, 10, 12, 8, 16, 6. If you require a really good plate capable of giving good dense negatives, buy a high-class plate, rich in silver, either 4, 3, or 9.

H. MACLEAN.—MS. to hand; will be used shortly. G. L. SNOWBALL.—Your print is duly entered for the next "Monthly Competition." Glad to find that our efforts give satisfaction.

A. C. L.—The print has some blemishes, and is hardly up to the best sent for our "Monthly Competitions." The view is not carefully placed on the plate. The tone of print is not good, being too "pink." The enlarging lantern named is well worth the money asked for it.

V. MISSELBROOK.—(1) We have not much experience of the plate you name; but should think those labelled "Instantaneous" should do the work you require of them. The "Extra Rapid" of the brand you name are labelled 26, but in practice are found to be about 22. We should advise the use

of your largest stop; probably that is $f/8$, as you mention that size. (2) Some operators give the charge needed as from 15 to 20 grs., but it depends in a great measure on the form of lamp used.

R. V. G.—If you wanted a really well finished camera A should answer your purpose, but the shutter is a weak point, especially when you are using it in India. It will, with a good R.R. lens, do all that you require, and will take both time and instantaneous pictures. We think the camera, if strengthened, will stand the climate. C is of the same class, more money, and certainly better made. B is a handy camera, but the lenses sold with it are not always satisfactory. D: there are reasons why this camera would not be suitable in a hot climate, and we think your choice lies between A and C. If we can further help you we are at your service, and shall be pleased to inspect the camera you choose.

F. J. THORNTON.—We thank you very much for your opinion of the apparatus.

A. CONSTANT SUBSCRIBER.—Very glad you were so fortunate.

Sale and Exchange.

RULES.—Fourpence for twelve words or less, and a penny for every additional three words, must be enclosed with each advertisement, together with the name and address of the sender, which must be paid for, and sent to Hazell, Watson, and Viney, Ltd., 1, Creed Lane, Ludgate Hill. Halfpenny stamps preferred. A single figure, or group of figures undivided by letter, space, stop, or words, counts as one word; compound words count as two words.

REPORTING UPON APPARATUS.—The Editor of the AMATEUR PHOTOGRAPHER will be pleased to report to any intending purchaser, upon apparatus, etc., offered for sale in the "Sale and Exchange" column, provided such apparatus, etc., is forwarded by the seller to him to the offices of the AMATEUR PHOTOGRAPHER, 1, CREED LANE, LUDGATE HILL, LONDON, E.C., free of charge. The intending buyer to pay a fee equivalent to a commission of 2½ per cent., the minimum being one shilling, upon the sale price of the apparatus, etc. The publishers will undertake the packing and sending of all goods at the cost of the seller. As far as possible, the Editor will undertake to send a report within two days of receipt of goods.

DEPOSITS.

Deposits for goods to be forwarded on approval may be made with our Publishers, who will hold the amounts deposited until they are satisfied that the transaction has been executed to the satisfaction of both parties. Cheques and Post Office Orders should be made payable to Hazell, Watson, and Viney, Ltd. A nominal charge of 1s. is made whether a sale is effected or not.

Advertisements can be inserted under a number, the name and address being registered, and letters forwarded for a fee of 6d. to cover postage.

N.B.—Trade Advertisements cannot, under any circumstances, be inserted in this column. Such advertisements can be inserted elsewhere at the Trade Scale, which may be obtained on application to Parry and Crawford, 1, Creed Lane, Ludgate Hill, London, E.C.

Apparatus.—Camera case, waterproof, stiff leather bound, 8s. 6d.; solid leather, 14s. 6d.; good locks, straps; approval; 6 stamps. — 1, Hermitage Mews, Stamford Hill, N.

Watson's Acme half-plate camera, with five double dark-slides and Eastman roller slide, three-fold tripod, with sliding bottom joint and solid leather case, Taylor's 8 by 5 view lens, Ross' 8 by 5 rapid symmetrical, Ross' No. 3 portable symmetrical, Thornton-Pickard time and instantaneous shutter and exposure meter, condition as new, cost £30 3s., price £24; Rouch's Bureks 5 by 4 hand-camera, with two finders, alpenstock stand, and solid leather case, equal to new, price £8; Lancaster's enlarging lantern, with 8 in. condensers and 4-wick lamp, price £6 6s. — Townsend, Attleborough Lodge, Nuneaton.

Cameras, bellows, 10 by 8, with four double backs, cone extension, tripod stand, inner frames, Sergeant's and Marshall's shutters, view finder, bice bags for dark-slides, and box for camera; to be sold at a great bargain. — Apply at Stanley's, 13, Railway Approach, London Bridge, S.E.

Banjo, etc.—7-stringed American head banjo, 25s.; and 52 in. bicycle, balls throughout, see-saw saddle, and lamp, £5 10s.; exchange for whole or half plate camera and lens. — F. Watts, 109, Senegal Road, Bermondsey.

Cameras. — Quarter-plate Instantograph, complete, good condition; 30s.; approval; deposit. — Lyne, Boxhill.

Cameras, etc. — Whole-plate Bilcliff camera, double extension, turntable, three slides, whole-plate rapid rectilinear lens, 11 in. focus, whole-plate rapid landscape lens, 14 in. focus. U.S. mounts and diaphragms to both lenses, Wratten's stand, various sundries, wicker case, lined baize, £10; Chambers' special detective lens, and Thornton-Pickard shutter, £2. — W. Scaling, Asford, Nottingham.

Half-plate camera, long extension, best leather conical bellows, all movements, rapid rectilinear lens, and sliding stand, complete; price £3 10s. — Wm. Hutchinson, Harpole, Northampton.

Lancaster's half Instantograph, complete, as new, in case; also case for stand; sacrifice, £3. — S. McCord, Post Office, Strabane.

Lancaster's half Instantograph, equal new, £3 10s.; cabinet burnisher, 12s. 6d.; also half camera, leather bellows, rising front, folding tailboard, etc., three metal slides, R.R. lens, stand, price £3 10s. — 2, Peter's Street, Dereham Road, Norwich.

Cameras, Lens, etc. — Lancaster's half-plate Instantograph, instantaneous lens, fitted with Iris diaphragm and shutter, one mahogany and two metal double dark-slides; £2 5s. — H. R., 41, Lansdowne Gardens, South Lambeth. Call after 6.

Cameras and Lenses. — Tourist camera, 7½ by 5, four double backs (by Watson and Sons), Beck's 8 by 5 R.R. lens, Phantom shutter, good as new, £7; bellows stereo camera, screw adjustment, pair of excellent lenses, six backs, and flap shutter, 43s.; quarter W.A. Rectigraph, Iris diaphragm, 14s.; quarter W.A. view lens, revolving stops, 7s.; half-plate view, with Waterhouse stops, 10s. — Westport, 1, Wellington Road, South Shore, Blackpool.

Camera and lens, 8 by 5, American make, two double backs, good condition, 15s.; also good bell tent, for camping out, 10s. — Smith, Gas Works, Oxford.

Postage stamp camera, 12 lenses, to take 24 (two positions) on half-plate, and Victoria camera, six lenses, to take six (three positions) on half-plate; £1 10s. each. — Montana, Blackheath, S.E.

Half-plate modern camera, double extension, leather bellows, reversing and swing back, never been out for lens, three double book-form backs, cost £5 18s. 6d., price £4 5s.; Lerebours whole-plate portrait lens, £2 5s. — Biddle, Medlock Street, Manchester.

Film Slides. — Two Vergara's double half-plate film slides, solid form, nearly new, in exchange for plate slides, which must be in perfect condition. — Howell, Kingston House, Caterham Valley, Surrey.

Hand-Cameras. — Kodak detective camera, equal new, cost 105s.; price 55s.; exchange with little cash for Ross' or Dallmeyer's half-plate R.R. — Bygrave, 15, Canterbury Road, Brixton, S.W.

Secret detective camera, Stirn's patent, complete, and in thorough working order; cost 37s.; take 25s. — A. Mercer, 16, King Street, Sparkbrook, Birmingham.

Hand-Cameras, etc. — Optimus hand-camera, 5 by 4 R.R. lens, six double backs, to hold 12 quarter-plates or films, the shutter works at any speed up to 1/25th of a second; can be used on a tripod for time exposures; in perfect condition; price £5; originally cost £7 11s. 6d. — To be seen at Browning's, 63, Strand, W.C.

Quarter-plate detective camera (Turnbull's), R.R. lens, and six double backs, three different lenses, can be used from 5 in. to 7 in. focus, very small, light, and unobtrusive, £5 complete; 3B Suter lens, what cash offers? 1AA Dallmeyer wide-angle rectilinear lens, new, £3 10s. — Cecilia House, Montford Place, Kennington Green.

Harmonium. — Large harmonium, walnut case, 8 stops, good condition; £5; or exchange lens and cash. — Benson, Marlborough Road, Oxford.

Lenses. — A Voigtlander half-plate portrait lens, a Lerebours whole-plate portrait lens, and a Ross portable symmetrical 9 by 7 lens, half prices, or exchange. — Lowden, Reform Street, Dundee.

For sale, Lerebours half-plate portrait lens, with four stops, in splendid condition; price 32s. — Joseph Berry, 24, Back James Street, Bolton, Lancashire.

Half-plate R.R. lens, foreign, good; cost 75s.; sell 40s.; proofs of negatives. — D., Clarke's Library, Richmond Road, S.W.

Optimus Euryscope, 7 by 5, with shutter (time and instantaneous), £4 5s.; pneumatic drop shutter, 4s. 6d. — Howard, 16, Perryn Road, Acton.

For sale or exchange, quarter plate portrait lens (by Dallmeyer, London), No. 2,600; £3; or good half-plate camera and three double backs. — J. Boulton, 4, Belmont Street, Rainbow Hill, Worcester.

Exchange whole-plate view lens for half-plate wide-angle R.R., or half-plate metal slides with adapter. — A. G. Miller, Glenglass Saw Mill, by Ewanton.

Watson's cabinet portrait lens; cost 70s.; take 50s.; good as new. — Henry Lee, Trawden, near Oolne, Lancashire.

Single lens, new, with stops, covers 5 by 4 plate; 7s.; exchange half-plate printing frames, dishes. — H. K., 171, Caledonian Road, London.

Lens, etc. — 5 by 4 Optimus R.R. lens, £1; quarter-plate Lancaster's International slide, new, 5s. — Mansfield, 140, Great Clowes Street, Manchester.

Lens and Shutter. — Dallmeyer's 2B patent, list price £13 5s., in perfect condition, very little used, and Cadet's pneumatic shutter, for inside or outside camera; cost £2 2s.; to be sold cheap, or good exchange; open to offers. — Montana, Blackheath, S.E.

"Photo. Soc. Reporter." — Vol. i. PHOTOGRAPHIC SOCIETIES' REPORTER, excellent condition; 3s. 6d. — Leicester, 161, Croxted Road, West Dulwich, S.E.

Photometer, etc. — Decoudun's photometer, re-touching desk, view finder, Stirn's detective camera what offers? — Address, Wm. Bell, Northallerton.

Print-Washer. — Jefferies' whole-plate print and plate washer, excellent condition; 11s. 6d. — Bygrave, 15, Canterbury Road, Brixton, S.W.

Retouching Desk.—Retouching desk, whole-plate, perfect, with mirror and drawer; only 7s. 6d.—Tooth, Stephen Street, Rugby.

Sets.—Good half-plate Instantograph camera, two slides, lens, shutter, tripod, and lock-up case; cost £5; offers wanted; satisfactory reasons for selling.—Mallinson, Springvale Road, Sheffield.

What offers for Lancaster's Special patent quarter-plate camera, rapid Rectigraph lens, three double dark-slides shutter, tripod? Cost £7.—E. Mayhew, 36, Castle Road, Kentish Town, London.

Lancaster's 1890 half-plate Instantograph, dark-slide, tripod, and f/8 rapid rectilinear lens, quite new; cost 105s.—bargain, 73s.—E. Ernest, 2, Hawthorn Villas, Slad Road, Stroud.

5 by 4 box camera, outside measurement 10, 7½, 5½, spring lock, rectilinear lens, Thornton shutter, three double backs; 63s.—Gill, Clarendon Road, Seacombe.

Lancaster's 1889 Instantograph, with lens, Iris diaphragm, instantaneous shutter, two double dark-slides, and tripod, complete, condition almost new; cash offers requested.—Sewell, Bookseller, etc., Barrow-in-Furness.

Camera, 8 by 5 (by Meagher), two double and one single dark-slides, triple achromatic lens (by Dallmeyer), and folding tripod, all in perfect order; what offers? cash.—Halford, 4, Grove Gardens, St. John's Wood, London.

Set, Shew's half-plate, leather bellows, reversing back, swings, rising front, long extension, three double backs, Ross' 8 by 5 rapid symmetrical lens; cost £11 10s.; offered for £8 10s.—Howson, Brockenhurst, Ilford.

A quarter-plate Shew's detective lens and shutter, with 3½ in. square camera, rack-work movement, three backs, case, and walking-stick stand, especially made for magic lantern slides; £5.—Add ess, M. D., 128, Fulham Road, London.

Underwood's quarter Instanto camera, Ross' lens, time and instantaneous shutter, Lancaster's Universal tripod, dark-slide; cost £4; sell for £3 5s.—Address, Camera, 26, Duke Street, Chester.

Lancaster's half-plate Instantograph set, as new, camera, double extension, leather bellows, reversing back, rising front, instantaneous lens and shutter, double slide, folding tripod; cost £4 4s.; offers.—G. Greening, 20, Grove Terrace, Bradford, Yorks.

Shutter.—For sale, Phantom instantaneous shutter, fit any hood up to 2½ ins.; cost 27s. 6d.; price 13s. 6d.—F. Sharpe, Oakham.

Steam Engine.—Exchange or sell good model steam engine (value £6) for good quarter-plate camera, with three double backs and lens; approval.—Sheppee, jun., Finchley, N.

WANTED.

Apparatus.—Sundries, half and quarter plate set of developing and toning dishes, deep porcelain preferred, whole-plate camera case, half-plate portable tripod, two whole-plate double dark-slides, all good and cheap.—Graveson, Biskey Howe Terrace, Windermere.

Cameras.—Half-plate stereoscopic camera, complete, with removable partition, cash, or exchange camera, conical bellows.—Gould, 73, Littledale Road, Seacombe, Cheshire.

Lancaster's half-plate Instantograph, must be in good condition.—Particulars to James Beckett, 21, Upper Mossack Street, Bradford.

Cameras, etc.—Quarter-plate camera, with or without lens, one or two double dark-slides.—Fletcher, 7, Main Street, Cockermouth.

Would give 30s. for well-made, light-worthy, half, square bellows camera, with three double wooden slides; folding tripod also wanted; give makers' names and description.—Hendrie, Orwell Place, Edinburgh.

Camera Case.—Half-plate camera case, must be good and moderate in price.—Pope, North Hill, Highgate.

Changing Bag.—Good changing bag for whole-plates; particulars.—315, Crookesmoor Road, Sheffield.

Enlarging Lantern.—Enlarging lantern, quarter-plate; approval; state particulars.—Arthur Lewin, Castle Grove, Tuam, Galway.

Hand-Cameras.—Detective camera, or offers for chemical balance and weights (by Becker), battery, bicycle lamp, etc.—Graham, Barnob, Harrow.

Facile hand-camera, rapid rectilinear lens, stops, finder; reliable, approval; deposit to £4.—Fitzgerald, Earls Court, Tunbridge Wells.

Hand-Cameras, etc.—Camera, hand (Shew's), with Taylor Hobson lens, 5 by 4 shutter, and Iris diaphragms attached.—Wm. Jeffrey, Royal Exchange, Glasgow.

Shew's Heliopie hand-camera, complete, whole-plate, folding tripod, a rapid shutter to fit 2½ in. hood; all on approval.—Dr. Fitzgerald, Bouverie Road West, Folkestone.

Lenses.—Good fixed-focus lens for quarter-plate, cheap for cash.—Abel, Carriers Dock, Liverpool.

Lens, etc.—Best half-plate Instantograph or similar pattern R.K. lens, accessories; good cash price.—F., 10, Stoneleigh Terrace, Coventry.

Sets.—Whole-plate camera set; approval.—Apply, Pitzer, 155, Kingsland Road, London.

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NOTICES TO SUBSCRIBERS.

Subscriptions must be prepaid.

UNITED KINGDOM	Six Months, 5s. 6d.....	Twelve Months, 10s. 10d.
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INDIA, CHINA, ETC.	" 7s. 9d.....	" 15s. 3d.

NOTICES AS TO ADDRESS.

PUBLISHING DEPARTMENT.—All letters containing Subscriptions, Orders, Remittances, SALE AND EXCHANGE Advertisements, or other business matters for the *Amateur Photographer* are to be addressed to the Publishers, HAZELL, WATSON, AND VINEY, LD., 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

NOTE.—SALE AND EXCHANGE Advertisements, at the charge of Three Words for One Penny, can be received as late as WEDNESDAY MORNING.

ADVERTISEMENT DEPARTMENT.—All communications respecting TRADE Advertisements in the *Amateur Photographer* are to be addressed to PARRY AND CRAWFORD, 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

NOTE.—Trade Advertisements are received up to Tuesday morning.

EDITORIAL DEPARTMENT.—All Literary Contributions, Queries and Answers, Photographs for Competition or Criticism, Books or Apparatus for Notice

or Review are to be addressed to the Editor, *Amateur Photographer*, 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

NOTE.—To ensure insertion, all Communications should reach the Editor on Tuesday.

CORRESPONDENCE SECTION.—Anyone wishing to communicate with Contributors can do so by forwarding such Communication in stamped envelope, under cover to the Editor, *Amateur Photographer*, 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

"AMATEUR PHOTOGRAPHER" MONTHLY PHOTOGRAPHIC COMPETITIONS.

THE PROPRIETORS OF THE *AMATEUR PHOTOGRAPHER* offer, Monthly, two prize consisting of a

SILVER AND A BRONZE MEDAL (WITH RIBBON AND CLASP),

for the best and second-best photographs sent in to each of their Monthly Competitions. The subject of the Competitions will be as follows:—

LANDSCAPE OR SEASCAPE	June 14.
LANDSCAPE WITH FIGURE	July 14.
GENRE OR FIGURE STUDY	Aug. 14.
INSTANTANEOUS PHOTOGRAPHS, ANIMALS ETC.	Sept. 14.

Only one print is to be sent in; the negative of the prize pictures shall be at the service of the Proprietors, and all the prints sent in shall become the property of the Proprietors.

In addition to the Medals being given, the prize photographs may be produced in the *AMATEUR PHOTOGRAPHER*.

All photographs for any of the above competitions must be received by the

FOURTEENTH DAY OF THE MONTH,

and as received will be acknowledged in the columns of the *AMATEUR PHOTOGRAPHER*.

Competitive prints are available for exhibition before Photographic Societies after the 1st of each month.

Entry forms on receipt of stamped addressed envelope.

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FURTHER PARTICULARS ON APPLICATION.

PLEASURE CRUISES to the LAND of the MIDNIGHT SUN.—The ORIENT COMPANY'S steamships GARONNE (3,876 tons) and CHIMBORAZO (3,847 tons) will make a series of TRIPS to NORWAY during the season, visiting the finest fjords. The dates of departure from London will be as follows, and from Leith two days later:—

June 4th, for 15 days	July 15th, for 15 days
June 18th, for 27 days	July 23rd, for 27 days
June 25th, for 15 days	Aug. 8th, for 21 days

The steamers will be navigated through the "Inner lead"—i.e., inside the fringe of islands off the coast of Norway—thus securing smooth water; those of the 18th June and 23rd July will proceed to the North Cape, where the sun may be seen above the horizon at midnight. The Garonne and Chimborazo are fitted with electric light, hot and cold baths, etc. Cuisine of the highest order.

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EDWARDS' ISOCHROMATIC PLATES.

"Lafayette" writes:

"Dublin, March 29, 1890.

"You will be glad to hear that I have been awarded the Gold Medal at the Crystal Palace Exhibition. I am exhibiting four of the extra large pictures, size 33 x 19, and then some grand panels and 15 x 12's, all on your plates, and taken direct."

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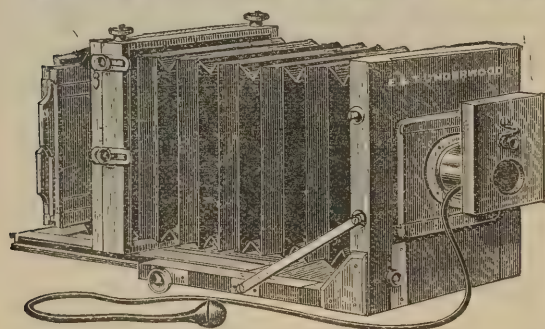
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To be had of all Photographic Dealers, and Wholesale of

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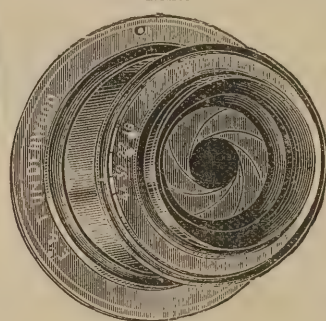
E. & T. UNDERWOOD, Granville Street, Birmingham.



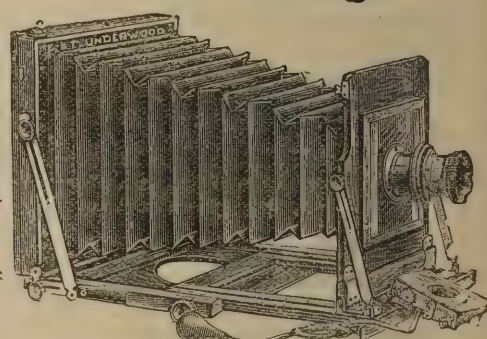
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Single Combination Portrait and View
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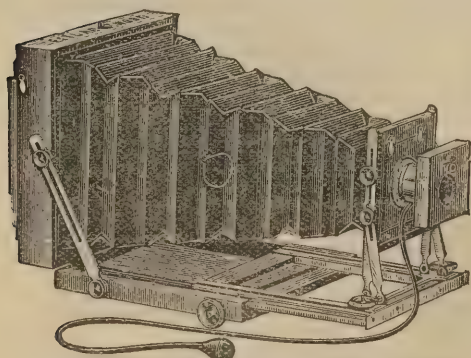


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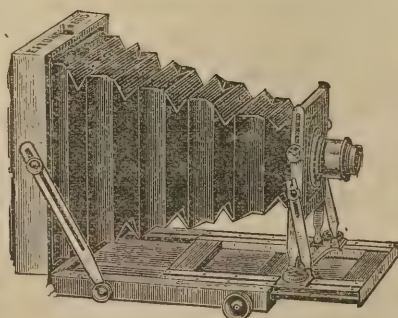
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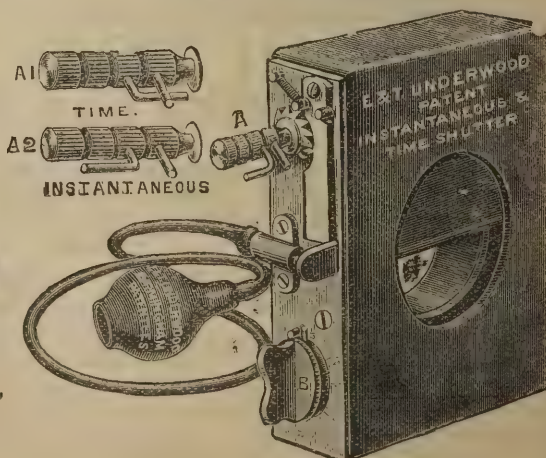
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THE "AMATEUR PHOTOGRAPHER"

1890

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NOTICE TO PRIZE WINNERS.

The winner of the First Prize will have to proceed on a Photographic Tour for *four weeks*, accompanied by camera, etc. the winner of the Second Prize *three weeks*, and the winner of the Third Prize *two weeks*. The Editor of the AMATEUR PHOTOGRAPHER will suggest Tours.

Prize winners must undertake to submit all Negatives taken during the Tour to the Editor of the AMATEUR PHOTOGRAPHER or his nominee, and must allow the use of at least twelve Negatives, and must give full power to the Proprietors of the AMATEUR PHOTOGRAPHER to publish prints from them in any form they may desire.

Competitors will be required to send in their work on or before Saturday, the 14th of June, 1890; the adjudication being made before the end of June in order to permit successful Competitors to take their "Tour" during the holiday season.

All those wishing to compete should apply for rules, entry forms, and forms of declaration to

The Editor, "AMATEUR PHOTOGRAPHER," 1, Creed Lane, Ludgate Hill, London, E.C.

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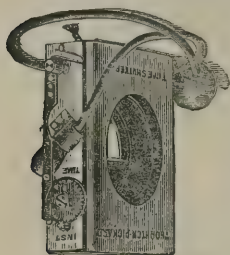
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...	...	24/6	2 1/2	27/6	2 1/2
...	...	26/6	2 1/2	29/6	2 1/2
...	...	28/6	2 1/2	31/6	2 1/2
...	...	30/6	2 1/2	33/6	2 1/2
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...	...	40/6	2 1/2	43/6	2 1/2
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The AMATEUR PHOTOGRAPHER

Edited By CHARLES W. HASTINGS.

1, Greed Lane, Budgate Hill, London, E.C.

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FRIDAY, JUNE 20, 1890.

[PRICE TWOPENCE.]

OUR VIEWS.

To hold as 'twere the mirror up to nature."—Shakespeare.

THE photographs contributed to the AMATEUR PHOTOGRAPHER "First Ladies' Photographic Competition" were judged on Thursday in last week. The following is a copy of the award:

"We, the undersigned, having examined the photographs sent in to the AMATEUR PHOTOGRAPHER Ladies' Competition, unanimously declare that the prizes shall be awarded in the following order:

First Prize (Gold Medal).—Miss E. DORA ANDERSON.

Second Prize (Silver Medal).—Miss CLARISSA MILES.

Third Prize (Bronze Medal).—Miss A. V. ABINGDON-BAYLEY.

Signed { EVELEEN MYERS.
EDITH SCANNELL.
IDA VERNER."

Miss Anderson has not before taken one of our medals, but her work sent to the "Home Portraiture Competition" was greatly admired, and we are sure all those who have the good fortune to see the pictures will admit that the award is well merited for her genre and portrait studies. Miss Miles has twice been awarded the AMATEUR PHOTOGRAPHER Silver Medal, the first at the Third Amateur Photographic Exhibition held in 1887, and last year at the York Photographic Exhibition. The pictures are charming examples of artistic posing. Miss Abingdon-Bayley secures the Bronze medal for landscape and landscape with figure subjects. There are several other contributors whose work deserves special attention, but we must reserve our further remarks and criticism, partly from lack of time, but chiefly from the fact that the prize pictures are in the hands of the Editor of the *Lady's Pictorial*, who has asked to be allowed to reproduce selected photographs to illustrate an article upon the competition and the benefits and pleasures ladies may derive by practising photography. It may be interesting to state that in this competition the prize winner has the option of having the medal mounted as brooch or pendant, or, of course, it can be had in the usual form with a ribbon and clasp. We are greatly indebted to our lady judges, more particularly to Mrs. Myers, who at the present time, owing to the quickly approaching marriage of

her sister, the talented Miss Dorothy Tennant, with Mr. H. M. Stanley, is much engaged. Both Mrs. Myers and her two colleagues, Miss E. Scannell and Miss Verner, were charmed and delighted with the work sent in; their satisfaction, and the fact that so many responded to our invitation, has emboldened us to project another competition particulars of which will be announced early, if not in the first week, in July. The photographs will be "on view" during next week at our offices.

* * * *

We have received some further particulars of Mr. Paul Lange's trip to Iceland. He will sail on the 26th inst. from Liverpool in the steam yacht *Myrtle*, and will be accompanied by a talented journalist, our Liverpool District Editor, and by a gifted artist, Mr. T. Kelly, who has already won his laurels for descriptive sketches in pen and ink. Mr. George Thordahl, the organiser of the trip, will also be with them, and it is intended to "do" Iceland thoroughly. There is little doubt that ere long Iceland will be visited almost as much as Norway. We shall hope to hear of the travellers whilst *en route*, and shall, if so, keep our readers advised of their movements.

* * * *

We are now in a position to give the full contents of the July PHOTOGRAPHIC QUARTERLY, which will be as follows:—Is Art Indebted to Photography? by Mr. Peter Macnab; "Sun Pictures in the Valley of the Nile," by Major J. Fortuné Nott, illustrated with pictures from negatives by the author; "Photography in Natural Colours," by Mr. F. Bligh Bond, with full-page chromo-collotype, printed from three negatives taken by the author. This illustration is, we believe, unique in the annals of photography, and will give the nearest approach to photography in natural colours that has yet been attempted commercially. Each negative, before exposure or at the time of exposure, has been made sensitive to a special colour, and the natural colours have been followed in the reproduction as closely as possible. The subjects—fans, china, feathers, flowers, drapery, etc.—have been chosen with a view to show the possibility of securing gradation

of tone in photography. The work, though expensive, is likely to receive considerable attention, and the publication of this print in the *QUARTERLY* marks another epoch in photographic science, and its aid to art. The other papers are, "A Plea for Systematic and Associated Work in Photography," by the Rev. T. Perkins, M.A.; "Breadth and Atmospheric Perspective," by H. Dennis Taylor; "Portraiture and Journalism," by Charles E. Pearce, illustrated with sketches by Shirley Hodson; "A Tourist's Equipment, or How must I be Prepared before Starting?" by the Rev. Precentor Mann, M.A. The number of articles is somewhat less than usual, but they are of a highly instructive and interesting character, and will well repay the most careful attention. We understand that the article promised by Mr. T. R. Dallmeyer on "Some Points in Connection with Light and Photography," has had to be held over for the present.

* * * *

No less than 58 entries have been received for the "Travelling Studentship Competition," and although this week we cannot give any particulars as to who will adjudicate upon the photographs sent in, we shall hope next week to be able to publish their names.

* * * *

WE hear on all sides that a large attendance is expected at the Photographic Convention, of which we gave particulars last week. Given fine weather, a more delightful week's outing could not have been arranged. The Council of the Convention deserve support, and we hope many of our readers will become members. The subscription is low, and if the transactions were published in book form, they would contain a very valuable record of the progress of photography.

* * * *

It will be remembered by many of our readers that efforts have not been wanting on the part of those interested in the practical side of photography to bring about a uniform or standard of screws for the flanges of photographic lenses. The following firms have subscribed their names to a letter, which we publish below:—Messrs. Ross and Co., J. H. Dallmeyer, R. and J. Beck, W. Wray, Henry Crouch, and James Swift and Son.

"We who were present at the meeting, with every desire to assist in the settlement of this important question, were convinced that the sizes arranged would not be universally adopted by the leading manufacturers. We felt, however, quite confident that it would be possible to arrange a series of flanges which could be adopted by ourselves, and which should also be of such a character that the majority of lenses now in the market should screw into them."

"We are making a careful investigation into the matter, and we have gone quite far enough to see that we shall be able to adopt such a series of sizes. Several important considerations are being carefully considered, amongst which may be mentioned the absolute necessity of arranging a series of diameters which are in suitable ratio to the dimensions to which the lenses themselves must be made. In order, therefore, to obtain standards that will be in future adopted by the leading makers, we are carefully arranging a series of sizes to which we shall work in future, and which we shall submit for the careful consideration of the Photographic Society of Great Britain, and the Photographic Convention."

* * * *

WE have received the last issue of *The Park Hurstian*, a school magazine which is always illustrated by photography. The frontispiece in the number under notice is

a well-arranged group, and we are sure that the boys' mothers, sisters, cousins, and their aunts, to say nothing of the relatives of the sterner sex, must have been much pleased at receiving such an excellent photograph. The prints are all prepared by the boys, under the guidance of Mr. D. Johnston, and are most creditable. In writing us, Mr. Johnston says:—

"I forward you a copy of our school magazine, from which you will see that your pupil and your pupil's pupils are at least persevering. If we are not progressing it is not the fault of our teachers—the *AMATEUR PHOTOGRAPHER*, the *REPORTER*, the *QUARTERLY*, and Keighley's beautiful pictures. We had four negatives to print from, and did some bromides, some platinum-types, etc., but can get nothing to equal the chlorides."

The occupations of printing, toning, mounting, etc., are admirable for school boys, and teaches them to be exact, neat, quick, and clean. The boys at Park Hurst School, Buxton, in all these respects have done well.

* * * *

In connection with "Photographic Surveys," the following letter from Mr. E. Howarth, F.R.A.S., appears in the *Sheffield Independent*:—

"In your very interesting article on the subject of a photographic survey of Warwickshire you refer to a similar scheme submitted last year to the Sheffield Camera Club for a survey of the Sheffield district. As the one who submitted the proposal for a photographic survey of Sheffield to the Camera Club, I regret to inform you that at the end of last year the Sheffield Camera Club passed the following resolution, which certainly does not reflect very great credit on the energy and public spirit of its members:—'That owing to the lack of interest shown in the photographic survey the scheme be given up for the present.' Now that you have called more prominent attention to the subject I trust it will be taken up by those able and willing to carry it out. There are in the Camera Club many members who are quite able and I believe willing to do their share of the work, and if the Photographic Society of Sheffield would also join in the work it would soon make good progress. In submitting the scheme to the Camera Club last year I read a somewhat lengthy paper setting forth some of the methods of carrying it out, and in reading Mr. W. J. Harrison's scheme for Warwickshire in one of the photographic journals I was much gratified to find how closely it followed the lines I had suggested in my paper. I hope the large body of amateur photographers in Sheffield will now take the matter up, and they cannot better make a start than by holding a preliminary meeting, as suggested in your article, for of all things it is absolutely necessary that the scheme to be successful must be carried out according to a definite plan. I shall be very pleased to send a copy of my paper to any one willing to join in carrying out the scheme."

* * * *

THE Monthly Competition, "Landscape and Seascape," has been largely contributed to, no less than eighty-eight ladies and gentlemen having entered their photographs. We shall, as before, give Silver and Bronze Medals for first and second best pictures both in landscape and seascape. These prints will form the first contribution to our new sets of loan photographs. The sets will be ready for loaning after the 13th of September. All the old prints have been either presented to hospitals or destroyed. We have to complain that many of the photographs sent round the country by us last season received very rough treatment. We shall be glad if those Secretaries of societies who may desire the loan of the *AMATEUR PHOTOGRAPHER* "Monthly Competitions" will make application early, in order that the route for the boxes to take may be determined upon. In all cases it will be as well to name, say, three dates. The standard of work sent to the current competition is exceedingly high, and the photographs of themselves will afford sufficient matter for a good exhibition.

Letters to the Editor.

THE CRUSADE.

SIR,—When I last wrote to your admirable journal I did not propose again to occupy your valuable space, as the ball being once set going, I trusted that other correspondents with abler pens, and perhaps more leisure, would continue the fight. But I cannot refrain from once more asking you to insert another letter, as I should be wanting in gratitude were I not to thank you most sincerely, and in the most public manner, for the invaluable service you have rendered the photographic world generally, and the amateur section of it in particular, by the very bold and thorough article which you have printed on our grievances. I say bold advisedly, as it must require much more than the average courage and honesty to lay bare openly the plague-spots of fraud and extortion that are so prominent a feature in the commercial life of a powerful fraternity in which you must necessarily take an interest. You have earned the grateful thanks of thousands for the crusade you have inaugurated, and I have little doubt that your action will mark an era and bring in a time when it will be possible to indulge a pleasant and useful hobby without being fleeced or imposed upon at every turn. The experience of nearly every lover of photography will, I feel sure, endorse the words of your article, concerning the high prices, the scamped workmanship of photographic apparatus, and the insolent treatment that follows when complaints are made.

Another cardinal sin practised by almost every dealer is the filling his catalogue with the most mendacious statements, a species of literary lying that doubtless comes under the criminal law, if victims would but take the trouble or had the courage to invoke it. There is another section of this subject which I trust you will also take up. The unsuccessful dealer, whatever else he may be, is seldom otherwise than an accomplished student of the failings of poor human nature. He is appealing to a world largely made up of novices, who, with the ingenuousness of youth and inexperience, are ready to receive whatever they see *in print* as accurate as the ultimate truths of religion and science. The bitter blow of a painful awakening comes soon enough, but too often the victim has no one to advise or help him, and is wholly in the power of his unscrupulous master. Those living out of England know the well-nigh impossibility of finding a dealer who will act honestly and fairly. Such, at least, has been my case. In most other trades the pressure of competition and the demands of the period are rapidly reducing the producer, the dealer, and the buyer to a just and reasonable level of profit, but with those having to do with photographic materials the case is quite exceptionable. Here the present profits are quite out of all proportion to the cost of production, and manufacturers and dealers accordingly wax fat, and, ceasing to be servants, become the hardest of insolent task-masters. Were the goods supplied of fair quality or of the advertised nature, few would object to pay even a high price. But they are seldom either. In an extensive experience of dealers and their catalogues (as, living much abroad, I have to rely on the good faith of both) I can only say that, without possessing any special amount of charity, I should be extremely sorry for my worst enemy to go through what has so far been my fate.

Before closing this already long letter I should like to add a word on another though kindred subject, which, however, being partly personal, is of far less importance. Some weeks back I, in common with others of your readers, ventured to raise the standard of revolt against the present system of extravagant prices. The cost of hand-cameras was specially chosen as an example, and of them the Kodak was taken as a type. One correspondent stated that the lenses (the expense of manufacturing which is always claimed as the reason for the high prices asked) of this latter camera could be purchased at first-hand for sixpence apiece; since then he has corrected his statement to threepence. The correspondence had not gone far, when suddenly a certain Mr. William H. Walker, who seems to hold some position on the staff of the Eastman Company (the proprietors of the said Kodak), leaped into its midst and, like a cheap-jack at a fair, began pouring forth volumes of words, obscuring the main issue and advertising the wondrous merits of his Company's goods. The only thing concerning his wares he omitted to mention was their absurd prices.

This voluble tradesman has now singled me out as a special object of attack, or as the special means of burking the truth on

the original issue. He has launched, in the last number of your journal, at my innocent head a flood of choice eloquence, liberally adorned with adjectives, and couched in that peculiar American style we have long learnt to know though not yet to appreciate. This, of course, is a matter of but small importance. I shall doubtless survive it. What *is* of importance is to obtain a clear and decided answer to Mr. Norris' original statement concerning the first cost of the Kodak No. 1 lens: (1) Is it or is it not threepence or sixpence, or some sum approximate to these? (2) What *is* the actual cost of production of a finished Kodak No. 1, for which five guineas is asked? Upon an answer to these questions the public will be able to form a pretty accurate idea as to the amount of profits manufacturers till now have reaped from the sale of hand and other cameras, as also upon the important question of the prices of lenses. In all the letters so far published by the Eastman Company's representative, the only questions relevant to the points at issue have been carefully ignored. This silence is significant. With the personality of Mr. William H. Walker the world at large has no concern; *he* is merely a detail, though I admit a noisy and unpleasant one, in the discussion. No one proposes to buy *him* and use him as a hand-camera, if for no other reason than that his own valuation would be far too high, and that of the public far too low, to make it worth his while to give up his present situation. Finally it may be doing Mr. William H. Walker a real service to hear a sad though sober truth. Photography does *not* depend (as he appears to think) wholly upon the Eastman Company for its life, neither does the Eastman Company, I presume, entirely owe its position to Mr. William H. Walker.

Once more thanking you for the great service you are doing to all workers in the art you so ably represent, I am, etc.,
Trieste, June 11th, 1890. F. G. B.

* * * *

ALBUMENISED PAPER.

SIR,—I see in your issue of June 13th that "J. R." complains of my paper, and suggests that it might be cut from remnants. I am of opinion that before you publish remarks of that kind from a writer who has not the courage to sign his name and address, and which are intended to damage the reputation of a manufacturer, it would be fair to ascertain if the writer has failed to obtain satisfactory explanations from the maker, who is often able to point out the proper remedy for the defects complained of. Having to use raw paper made at various times of the year, more or less suitable for its manufacture, I do not profess that every sheet shall at all times be absolute perfection, the more so as defective paper can only be detected after printing and toning.

I know of no case where I have not exchanged paper (either printed or not printed, cut or not cut) that showed any defect in the making, and it is most disheartening to have such unfair and damaging statements published. In the majority of cases the defects complained of are attributable to some fault in the manipulations; but where this is not the case I am honest enough to admit the defect, and most willing to exchange for fresh paper.

I hope that in fairness to myself you will publish this reply, as I am sure that you do not conduct the present crusade against manufacturers and dealers all one-sided.—I remain, yours, etc.,
OTTO SCHÖLZIG.

31, Binfield Road, Clapham Road, S.W.
14th June, 1890.

NOTE.—It is our desire to have both sides of the question in these columns, which are open for any explanations which are couched in temperate language.—Ed:
AM: Phot.

* * * *

THE PACKING OF DRY PLATES FOR TRAVELLING.

SIR,—I have always advised in taking plates any long journey that they should be packed in solid blocks of a dozen in each packet face to face, with orange paper round every four plates, but with nothing between the films, and with at least two thicknesses of strong brown paper, free from pinholes, tightly wrapped over all. In this way I have never had any plates broken or scratched. On the contrary, the grooved boxes have caused me no end of trouble, especially the ones with paper frills. They are bad, for six reasons at least:

- (1) They are more bulky than in the solid.
- (2) Should a box be opened at the custom-house by an ignorant official, or accidentally in daylight, *all* the contents are at once,

spoil, whereas only four plates can be spoiled by the solid method.

(3) In the solid method the packet may be dropped on the ground, and jumped on almost with impunity if tightly packed, whereas in the grooved boxes the outer plates invariably break.

(4) In the case of the grooved boxes, if the outside plates are put in wrongly, *i.e.*, with the films outwards, which can easily occur, they get dreadfully scratched by the side of the box.

(5) In the case of some boxes minute particles of cardboard and glue get chipped off, and get ground up to a fine dust by the plates, and blowing about get soon over the surface of the plates.

(6) They take three times as long to pack in the dark as by the solid method.

I am convinced that Messrs. Edwards would have a larger sale for their undeniably excellent plates if they were to take the hint, and abolish for ever their abominable boxes with paper frilling, and adopted some plan like Thomas or Wratten for packing them.

It may be urged that the experiment I related at the Photographic Society's last meeting would be a conclusive reason for not packing exposed plates film to film, and this objection would be valid had any of the plates been exposed to sunlight; but the amount of light that the plate in the slide actually receives is quite insufficient to do any harm to a plate, either exposed or not, placed face to face.

In conclusion, I may add that I have every year for the last nine years taken plates abroad during my vacation tour, and I have never had reason to regret having packed them up in the way I have described, and have always been sorry when I have departed from this method.

Perhaps the simplest and best method of all is to wrap up the several packets of two or four plates (done up in orange paper), in such a quantity that when in one outside wrapper they will just slip into either a sliding or an ordinary lid-covered cardboard box. Two rubber bands will then be all that is necessary to finish the operation.

It is the importance of the subject and the absurd notions which prevail about it, that is my excuse for thus filling your columns.—I remain, yours, etc., J. LINDSAY JOHNSON.

14, Stratford Place, Oxford Street, W.,
June 14th, 1890.

* * * *

BIRKENHEAD v. BIRMINGHAM.

SIR,—Referring to Mr. J. H. Pickard's letter to me, a copy of which appears in your issue of the 6th inst., I shall be glad if you will give me an opportunity of substantiating the claim for originality made on behalf of the Birkenhead Association. Mr. Pickard's arguments are far from as conclusive as he imagines when writing his somewhat discourteous postscript. To the other portion, or rather, to his letter proper, I can take little objection; the facts are no doubt perfectly correct as far as they go, but some of the phrases are not happily conceived, as, for instance, "The Birkenhead Photographic Association appears to have produced," etc., and again, "exhibited for the first time a month or two back." There is no doubt about the Birkenhead Association having done so, then why the word "appears"? The slides were certainly shown a month or two ago, but had been shown also more than twelve months previously.

Mr. Pickard says that in my brief letter to him I claim three things:

(1) Originality for the scheme which the Birmingham Photographic Society have in hand for the Photographic Survey of Warwickshire.

This I certainly do still, even after carefully reading all the arguments he brings against it. When he proves (?) the thing to have been done twenty-five and fifty years ago, he distinctly shows that the Birmingham Society is not the originator, as claimed by its Chairman. The Birkenhead Association took the Ordnance map, divided it into numerous sections, and allotted these sections to the individuals by ballot; this is a far different affair from getting together a thousand or so negatives. We are not discussing a point of magnitude, but a thoroughly well organised scheme.

(2) To have been the first in the world to undertake such work.

The public Press has frequently referred to this fact, which still remains undisputed.

(3) That the survey of the hundred of Wirral is an accomplished fact,

This is so to a certain extent; the object was to condense as much as possible, and not to enlarge indefinitely. Mr. Pickard further raises a point of distinction between the hundred and a county. There seems little, if any, difference, to my mind; the hundred of Wirral covers a very large area.

The Birmingham Society has a splendid work before it, and, from the details vouchsafed by Mr. Pickard, the work will be done on a grand scale, and will be the more valuable as it is not to be purely photographic. When I contemplate the possibility of such work being consigned to the dusty corner of a public library, I am forced again to parade the Birkenhead Association's plan, and suggest the advisability of, at any rate, gleanings being made into slides upon which to pin a lecture or lectures.

Apologising for having, in the interests of my fellow members, trespassed so much upon your space, I am, yours faithfully,

Mountside, Rowson Street, C. B. READER
New Brighton, (Hon Sec., Birkenhead Photographic Association).
June 16th, 1890.

* * * *

BLISTERS.

SIR,—One repeatedly sees directions how to avoid blisters in albumen prints, and Mr. Robinson, in a recent article, implies that they render the prints useless, but I have never seen any method described of how to save prints when once blistered. The other day, through overheating, nearly the whole batch of prints blistered in the toning bath, most of the blisters being of the usual pimply description, but four or five were much larger. In the fixing they increased enormously, varying in size to larger than half-a-crown. After twenty-four hours' washing I determined to try and save the prints, though when the faces of large portrait-heads were swollen and distended out of all recognition, the case appeared hopeless. I slid them on to a ferrotype plate, and, covering them with blotting and brown paper, I stroked the blisters very gently with the squeegee in different directions, watching carefully to see that there was no puckering. Gradually the blisters subsided, and when they had been flattened down hard with the back of the squeegee, the paper and detached albumen were brought into contact with equal tension on each. On curling off the plate, the smaller blisters were absolutely invisible; the larger ones cockled slightly, and the prints were so far useless. But in mounting, the glycerine being only lightly applied to the blister to prevent soaking through the paper, an equal strain was once more put on paper and albumen, and perfect contact ensued. In no case was it possible to detect the slightest trace of the blisters by looking direct at the mounted prints, and only in the case of the largest blister of all, by looking sideways, could a very faint outline of it be detected. I passed all the prints through the burnisher, and could not wish for better proofs.—Yours faithfully,
June 15th, 1890. J. J. RIX, M.A.

* * * *

PHOTOGRAPHIC SOCIETY FOR CAMBERWELL.

SIR,—It has been suggested that a Photographic Society should be formed in Camberwell, and in furtherance of this a few amateurs residing in the neighbourhood have arranged to meet at the Stirling Castle Hotel, Church Street, on Wednesday, the 25th inst., at 8 p.m., to consider the matter.

With your usual courtesy perhaps you will be able to find room for the insertion of this letter, as no doubt some of your readers, amateur or professional, interested in the subject, may be glad to know of the formation of such a society, and willing to promote it by attending the meeting.—Yours faithfully,
Louth Road, Camberwell, GEO. C. PIKE.
June 17th, 1890.

* * * *

BEAUTY SPOTS IN AND NEAR WATFORD.

SIR,—No doubt many of your readers who, like myself, are unable to join any photographic society, would be glad of an opportunity to hunt in company with other amateurs for pretty "bits." If any of your readers who live in the midst of an attractive neighbourhood near London or other large town would offer, through the medium of your columns, to conduct a party of your subscribers on a given date, probably many would gladly avail themselves of the opportunity. To give the plan a start, I shall be pleased to conduct any amateur photographers on Saturday, the 28th inst., through some of the beauty spots in and near Watford, starting from Watford Junction station at

349. Trains leave Euston at 3.15, and Willesden Junction at 3.25 for Watford.—I am, sir, yours, etc., T. GARDNER.
Rosebank, Queen's Road, Watford,
June 16th, 1890.

* * * *

ACID FIXING BATH.

SIR,—In answer to Mr. Fred Davis's question, "Who is right?" Both are. Acidity in the hypo bath does decompose it, liberating sulphurous acid (SO_2) and precipitating sulphur, but hyposulphite of sodium, or, more correctly speaking, thiosulphate, is not the acid sulphite, that name being applied to quite another salt, namely, NaHSO_3 , whereas the formula for the thiosulphate is $\text{Na}_2\text{S}_2\text{O}_3$.—Yours, etc., FRED KNOTT, F.C.S.
June 15th, 1890.

* * * *

ABRAHAM'S IDEAL CAMERA.

SIR,—Your correspondent has evidently got hold of a defective "Ideal," or is not sufficiently acquainted with its working.

I was entrusted with this particular make of camera before it was issued to the public, for the purpose of testing its capabilities, and exposed a great number of plates, and I must say, with all fairness to the makers, that I found it an excellent instrument. The camera I used was fitted with Laverne's lens, and the only fault I could possibly find with it was that, owing to the lens being stopped down, it was necessary to expose the plates in a bright light in order to secure a fully exposed negative. Apart from this the camera is perfect. I now understand that Mr. Abraham is fitting this camera with Taylor's lens and an improved shutter, and I have seen some excellent work done with it. Having had a deal of experience with Mr. Abraham's hand-cameras, I have not the slightest reason for complaint. At the present time I am using one, and have exposed 500 plates with the most happy results.

I am in no way interested in Mr. Abraham's business, but am frequently brought into contact with him in business matters, and feel assured that had your correspondent returned the camera to Mr. Abraham the defect would have been remedied.

—I am, yours, etc., EDWD. A. GOLLEDGE.
Ilford, June 13th, 1890.

SIR,—A word for Mr. Abraham. A friend made for himself a hand-camera, and got an advertised cheap R.R. lens from Abraham, which satisfied him thoroughly. He afterwards made a similar camera for me, and I too sent to Mr. Abraham for a lens of the same type. For this I paid something like 25s. nett.

I first worked it on half-plate, the corners of which it did not cover, but gave good definition. It covered a 5 by 4 well, and gave me some capital bits.

For three months it has been in my quarter-plate hand-camera, with fixed focus, and works so well that I wish for none other. If the "cheap" "Ideal" be fitted with this, the lens is sufficient.—Yours, etc.,

Melton Mowbray.

WILLIAM ADCOCK.

NOTE.—Letters have also been received from Mr. M. H. Hudson, 58, Petherton Road, Highbury New Park, N., Mr. Joseph Pearce, 146, Aldersgate Street, E.C., and Mr. E. H. Jones, 44, Packington Street, N., all speaking highly of the "Ideal" and of Mr. Abraham's manner of doing business. The calls upon our space have prevented our publishing the letters in full.—Ed; AM; PHOT;

SIR,—In your last issue "J. R." sends you a complaint under the above heading. Firstly I may say that it is not the ordinary advertised "Ideal" at all, and also that he was not led to order it through seeing it at the Palace, as he states, for the simple reason that it was never shown there.

This camera is totally different to the "Ideal," it having different lens, different shutter, and is made to focus, so that were his remarks true, they in no sense whatever apply to the "Ideal"; and as I shall make no more like the one complained of, it is quite unnecessary to occupy space in refuting his statements. Besides, surely if anything was wrong he should have written to me, and not a letter to you for publication.

I may say that the insertion in your paper of such reckless and exaggerated complaints, written without the least responsibility, and by fussy and meddlesome persons who are thoroughly ignorant about what they write, and who are ever anxious to rush into print; whilst they can do little harm amongst reasonable

people, still tend to cause friction and unpleasantness in trade generally; and whilst, sir, you are endeavouring to protect buyers from sending their money to unreliable people who advertise worthless goods, I feel certain you will also be fair enough to protect established *bona fide* dealers from remarks which are intended unfairly to affect their reputation and to damage their trade.—Yours, etc.,

ROBERT ABRAHAM.

NOTE.—This paper is open alike to buyer and seller. We have consented that our correspondent shall bring his camera to our offices, and invite Mr. Abraham to meet him in our presence, and we shall then judge whether the statements are correct, and in either case shall uphold the right.—Ed; AM; PHOT;

Chemistry for Photographers.

By C. H. BOTHAMLEY, F.I.C., F.C.S.

(The Yorkshire College, Victoria University).

(Continued from page 412.)

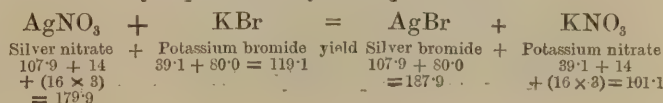
CHEMICAL equations are chiefly of value as concise representations of the results of experiment. They also often enable us to say beforehand that certain results will probably follow when certain substances are brought together; but it by no means follows that because we can write on paper an equation representing a seemingly possible reaction, therefore we can make that reaction take place. It is important to remember that the signs + and = have not their algebraic significance. Many chemical changes—e.g., those presented by the first and second equations—can be reversed under suitable conditions; but many reactions are not reversible, and therefore the two sides of a chemical equation are very often not interchangeable.

Equations, like symbols and formulæ, have a quantitative as well as a qualitative significance. The first equation tells us that one molecule of mercuric oxide, weighing 216 ($200 + 16$), yields one atom of mercury, weighing 200, and one atom of oxygen, weighing 16. The fourth equation tells us that one molecule of mercuric chloride, weighing 270.8 ($200 + 35.4 + 35.4$), and two molecules of potassium iodide, weighing 166.1 each ($39.1 + 127$), yield one molecule of mercuric oxide, weighing 327 ($200 + 127$), and two molecules of potassium chloride, weighing 74.5 each ($39.1 + 35.4$). A large figure placed in front of the formula of a compound, as in the fourth equation, denotes so many molecules of the compound—e.g., 2AgNO_3 means two molecules of silver nitrate; $5\text{K}_2\text{Cr}_2\text{O}_7$ means five molecules of potassium dichromate.

Since formulæ and equations have a quantitative significance, and denote certain definite relative quantities of the original substances and the products, it follows that if once we know the equation representing any reaction, and know the atomic weights of the elements concerned, we can easily calculate the quantities of the materials which we must take in order to obtain a given weight of the products. Such calculations are often required.

EXPERIMENT 29.—Dissolve 1.8 gramme of silver nitrate and 1.2 gramme of potassium bromide separately in small quantities of water (10 c.c.), and mix the two solutions; a yellowish-white precipitate will form, and will darken in colour if exposed to the light. Filter off this precipitate, and carefully evaporate the filtrate until a thin crust begins to form on the surface, and then set it aside to cool. After a time, long needle-shaped crystals will form in the liquid.

The precipitate is silver bromide; the substance in the filtrate is potassium nitrate. It is found that the result can be accurately represented by the equation—



Suppose we want to know how much silver nitrate and potassium bromide will be required to produce 10 grammes of silver bromide. The equation tells us that 179.9 parts of silver nitrate produce 187.9 parts of silver bromide; therefore—

$$187.9 : 10 :: 179.9 : x \text{ (Silver nitrate required).}$$

It also tells us that 119.1 parts of potassium bromide are required to produce 187.9 parts of silver bromide; therefore—

$$187.9 : 10 :: 119.1 : x \text{ (Potassium bromide required).}$$

Suppose also we want to know how much potassium nitrate will be formed at the same time. The equation tells us that when 187.9 parts of silver bromide are formed, 101.1 parts of potassium nitrate are also produced; therefore—

$$187.9 : 10 :: 101.1 : x \text{ (Potassium nitrate found).}$$

Calculate how much oxygen can be obtained from 500 grammes of mercuric oxide.

Calculate how much mercuric chloride and potassium iodide will be required to produce 100 grammes of mercuric iodide. How much potassium chloride will be formed at the same time? Keep in mind the significance of the figures before the formulæ in this equation.

Although our chemical equations convey so much information, they are by no means perfect representations of chemical changes. The equation for Experiment 29 does not tell us that the silver bromide is precipitated whilst the potassium nitrate remains dissolved; the equation for Experiment 24 (p. 215) does not tell us that the change involves an expenditure of heat; that of Experiment 26 (p. 215) does not tell us that the decomposition requires an expenditure of electricity; that for Experiment 22 (p. 177) does not tell us that heat is necessary to start the reaction, but when once started the reaction itself develops a large quantity of heat. The equations, in fact, tell us only the composition and relative weights of the original substances and the products; they tell us nothing about the conditions under which the reaction will take place or the outward and visible signs which accompany it.

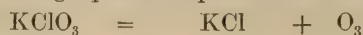
We will now proceed to study in detail the more important chemical elements and their compounds.

OXYGEN.

Oxygen is the most abundant of all the elements. We have seen (Experiment 26) that it exists in water in combination with hydrogen. It is found to constitute, in combination with metals, carbon, and silicon, about half the solid crust of the earth; and we shall find that it exists in the free or uncombined state in the atmosphere.

It is now obtained in large quantities from the air by a method which will be described subsequently. On a small scale it is usually obtained by the action of heat on some substance which contains it. In Experiment 24 we obtained it by the action of heat on mercuric oxide; in Experiment 25 we obtained it by heating potassium chlorate. Repeat this experiment.

Potassium chlorate is a compound of one atom (39.1 parts) of potassium, one atom (35.4 parts) of chlorine, and three atoms (48 parts) of oxygen, and it has the formula KClO_3 . When strongly heated it loses all its oxygen and the white solid which is left behind, and which gives a dense curdy precipitate with silver nitrate, is potassium chloride, KCl , a compound of one atom of potassium and one atom of chlorine. The following equation represents the decomposition:



Potassium chlorate = Potassium chloride + Oxygen.

When potassium chlorate is employed alone, it has to be so strongly heated in order to produce complete decomposition that a glass vessel is partially softened and injured.

It is found, however, that if the chlorate is mixed with certain other substances, it will give off its oxygen much more easily. One of the most convenient of these is manganese dioxide, MnO_2 , often called black oxide of manganese.

EXPERIMENT 29.—Fit two similar test tubes with corks and glass tubes bent at a right angle, the limb of each tube which fits into the cork being about 5 cm. (2 inches long), and the other limb about 15 cm. (6 inches.) Arrange the test tubes so that their ends rest close together on a sand tray, whilst the ends of the delivery tubes just dip under water in a small vessel. Into one tube put 5 grammes of powdered potassium chlorate, and into the other put the same quantity of chlorate ground up with one gramme of manganese dioxide. Heat the sand tray on which the test tubes rest in such a way that the two tubes are equally heated. At first bubbles of gas will issue from the ends of both delivery tubes. After a time, however, this will practically cease, but as the heating is continued, gas (oxygen) will begin to come off from the mixture of chlorate and manganese dioxide, and will continue to be evolved until all the chlorate has been decomposed. Very little oxygen will come off from the tube containing the chlorate alone until it is very strongly heated.

N.B.—Manganese dioxide is sometimes adulterated with charcoal or other combustible substances, which make explosive mixtures with potassium chlorate. A new sample should therefore always be tested by mixing some of it with potassium chlorate, and heating a small quantity of the mixture on the end of an old knife, or in a small crucible. If it does not explode or enter into violent combustion, the dioxide may be safely used.

(To be continued.)

The Electric Light and Photography.—V.

By T. C. HEPPWORTH, F.C.S.

ANOTHER simple and convenient help to the electrical experimentalist is afforded by the little catch which is used by jewellers for fastening necklaces, bracelets, etc. These can be bought by the dozen for a few pence in Houndsditch and other thoroughfares which seem to be given up to the requirements of the seller of cheap jewellery. I need hardly say that they are not made of gold, but of brass, but they form a very ready and convenient means of joining together temporarily wires in electrical experiments. The form of catch is shown at fig. 1, and the ends of the wire to be joined should be terminated with the two pieces of which it is formed, and they should be attached by solder. At the house of a great electrician I lately noticed that the flowers and other decorations on the dinner-table were interspersed with glow-lamps, some of them being under water in the glass vessels, in which the flowers were placed. At first it was difficult to see how any electrical connection could be made between these lamps and the main wires below the table, without any visible break of the table-cloth. I was afterwards shown that this necessary connection was brought about by copper needles, which formed the terminals of the glow-lamp wires, and which were pricked through the cloth, and were then held by these jewellers' catches or clasps.

It is not difficult to make an electric battery which shall be able to illuminate a few glow-lamps of small size, and, as already indicated, one of the most convenient for the purpose is that using a single fluid, such as the bichromate cell. Roughly speaking, a single cell, with plates, having each a surface of about eight square inches, will illuminate a glow-lamp of 2-candle power. A convenient size for the plates

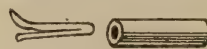


FIG. 1.

is 4 + 2 inches, and each cell will require one zinc and two carbons.

Both the carbon and the zinc plates will require some preliminary treatment before they are finally fixed to the wooden support. The carbon plates must receive a coating of paraffin wax on their upper ends, so as to prevent the battery solution creeping up by capillary attraction and corroding the metallic connections. The best way to apply the paraffin—an ordinary paraffin candle is the most handy thing to employ—is to heat the carbon plate upon the top of a stove until it is hot enough to melt the wax. The candle should then be rubbed across its upper part, after a sheet of paper has been bound round the plate, so that its edge shall mark a boundary line. This

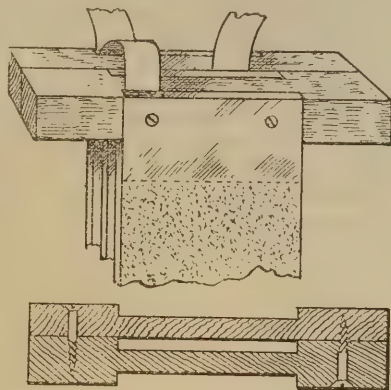


FIG. 2.

line should be a little more than one inch from the top edge of the plate. Both sides of the carbon, as well as the edges, should be treated with the paraffin above this line, and just enough should be applied to fill in the pores on the surface, any surplus being wiped off. If too much paraffin be applied where the connecting strip of metal touches the plate, it will act as an insulator, and the current will not pass. It is therefore as well to scrape this point of junction with a blunt knife, so as to remove any wax which may have escaped the wiping process.

The zinc plate must be amalgamated with mercury, or there will be local action which will most surely reduce the power of the cell, as well as shorten its life. To make the mercury form an amalgam with the surface of the plate, the latter must first of all be dipped into dilute sulphuric acid, one part of acid to eight of water. The mercury may then be rubbed on to the zinc, a few globules at a time, by means of a stick, with a little flannel rolled round its end, or the vessel containing the dilute acid may have some mercury put into it, and when the zinc is placed therein the mercury will attach itself to the lower part of the plate. The zinc can then be removed and placed, the other way up, against any suitable support, when the mercury will gradually run down both sides, and will amalgamate them without further trouble. But generally a little after-manipulation with the rubber becomes necessary to persuade the mercury to cover certain spots which it is apt to leave uncoated. The top of the zinc plate should be coated with black japan, to a depth similar to that of the paraffin band on the carbons.

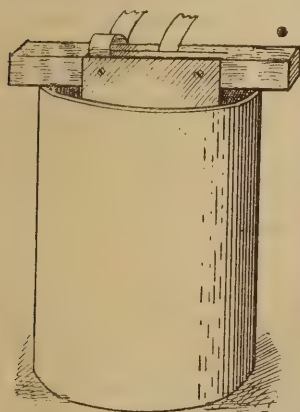


FIG. 3.

containing vessels, as shown in the illustration of the complete cell at fig. 3. The support is made of hard wood

and is in two pieces, each of which is recessed for the reception of the plates. When they have been correctly cut and fashioned as shown, they should be heated and covered with a layer of paraffin wax. The best way is to have a bath of the melted wax of sufficient capacity to hold the wooden pieces, and to allow them to soak there for ten minutes while heat is applied to the containing vessel. When this is done, the zinc plate should be attached by short wooden pegs to the wooden piece having the double recess, while at the same time the copper connecting strip should be inserted between the metal and the wood. Care should, however, be taken to scrape away the japan at this point, so as to afford good metallic connection between the two. The two wooden pieces may now be screwed together as shown, and the carbon plates attached to either side, not forgetting the copper bridge which connects the two, and the slip of copper which projects, and which is to serve as a connection for wires, or for other cells if more than one is to be employed.

For plates of small size the cell or containing vessel can take the form of a common glass tumbler, such as can be bought for about twopence. But most workers will prefer to employ plates of larger size than these will contain, and will use a salt-jar, such as is shown in fig. 3, for this purpose. These jars have the merit of being uniform in size and very difficult to break.

(To be continued.)

THE Providence Camera Club sends us a copy of the catalogue of its sixth annual exhibition of the work of the members of the Club. The booklet is very nicely got up, and contains a photographure of the prize picture of 1889, and a good process reproduction of a flashlight picture of the night-blooming Cereus.

A NON-ACTINIC SOLUTION.—An aqueous solution of 3 parts of green chloride of nickel and one part of red chloride of cobalt appears colourless by transmitted light, and when diluted perfectly water clear. Light passing through the solutions of either of these substances, says the *Photographic Times*, does not affect the salts of silver, neither has it actinic properties when passing through the mixture, notwithstanding it is perfectly white. Sensitised paper exposed to such light for more than a week had not changed in the least.

CORRECTION.—Mr. A. Brooker, Hon. Secretary of the Hastings and St. Leonards Photographic Society, writes:—"Your District Editor, in his 'Notes from the Liverpool Centre,' mentions Mr. F. Anyon as 'a prize winner at Hastings.' I suppose the expression can only convey the idea that the gentleman was awarded his prize here, but as no one of that name was an exhibitor at our recent exhibition, I think some error has been made."

NOTE.—Our District Editor has possibly mixed up the matter of Mr. Anyon's prizes. He received an award in our recent "Prize Tour Competition."—Ed. AM. PHOT.

A SHIPWRECKED PHOTOGRAPHER AT WORK.—The Rev. A. H. Blake, President of the Windsor and Eton Scientific Society, who is an enthusiastic member of the Photographic Society, is now making a tour of the Channel Islands. He crossed over from Weymouth on the morning of June 10th, in the Great Western steamer *Antelope*. It will be remembered that on arriving near Guernsey, the steamer ran on the rocks off the Island of Herm; the passengers were landed on some rocks awaiting the rescue boats from Guernsey. Mr. Blake lost no time in getting out his camera, and having succeeded by various devices in extemporising a dark-room, loaded his slides and took shots at the wrecked company and steamer; such was his success that the *Daily Graphic* in last Saturday's issue reproduced the scene. We would advise all amateur photographers to charge their slides before embarking on a voyage, as in these days of instantaneous photography many interesting pictures can be obtained if the apparatus is ready; and it is not every one who will have nerve enough to coolly photograph a "shipwreck" in which he has been personally interested.

Photographic References.

By MAJOR J. FORTUNÉ NOTT.

HAND-CAMERAS.

(Continued from page 414.)

AN examination of the tables previously given will be sufficient to show the necessity for having lenses on hand-cameras of comparatively short focus, when no means of adjusting the focus exists other than by guess work. As, however, the pictures resulting from their use do not commend themselves, in consequence of the angle embraced being sufficiently wide to give the perspective a distorted appearance, and the distinction in size between near objects and those but a short distance further away exhibiting a disproportion in size which appears unnatural, the advantages to be gained, from an artistic point of view, by employing lenses of longer range is made evident, and not only are pictures produced by their aid which are more pleasing to the eye than those resulting from lenses in which an apparent falsity arising through their optical construction is evident, but in their use the only means of obtaining with a hand-camera the photograph of objects with size sufficient to render them distinct under ordinary conditions appear to exist. Of course, by having the principal object it is desired to take, as close as the focal length of the lens will allow, fairly sized images may be procured. But this necessity limits the available powers of the hand-camera, for it is not practical or even possible, neither is it desirable, that the photographer should have to approach objects so close as this scale of distances necessitates in order to accomplish his object.

The subject of size being an important one for the users of hand-cameras who desire to produce photographs in which certain details are given boldly and not rendered in a finicking microscopic manner, the following tables are

Man, 5ft. 9 ins. in height, standing at the undermentioned distances:	Size on plate, with a lens whose focal length is 3 ins.	Size on plate, with a lens whose focal length is 3½ ins.	Size on plate, with a lens whose focal length is 4 ins.	Size on plate, with a lens whose focal length is 4½ ins.	Size on plate, with a lens whose focal length is 5 ins.	Size on plate, with a lens whose focal length is 5½ ins.	Size on plate, with a lens whose focal length is 6 ins.	Size on plate, with a lens whose focal length is 6½ ins.	Size on plate, with a lens whose focal length is 7 ins.
Yds.	In.	In.	In.	In.	In.	In.	In.	In.	In.
10	1½	1½	1½	1½	1	1½	1½	1½	1½
15	1	1	1	1	¾	1	1	1	1
20	¾ apx.	¾ apx.	¾	¾	¾	¾ apx.	¾	¾	¾
25	¾	¾	¾ apx.	¾ apx.	¾	¾	¾	¾ apx.	¾
30	—	¾	¾	¾	¾ apx.	¾	¾	¾	¾
35	—	—	¾	¾	¾	¾	¾	¾	¾
40	—	—	—	¾	¾	¾	¾	¾	¾
45	—	—	—	¾	¾	¾	¾	¾	¾
50	—	—	—	¾	¾	¾	¾	¾	¾

appended. These figures have been compiled for the purpose of showing the gradation of size at varying distances given by the lenses of different focal lengths. A man five feet nine inches in height has been taken as the standard, and, of course, by means of multiplication or division the size of every other object of known height at equivalent distance can be easily calculated.

From this table it becomes evident that, broadly speaking, every half inch beyond three inches added to the focal length of the lens increases the size of an object as large as a man by $\frac{1}{16}$ of an inch; and again, that with a lens 7 inches in focal length a man may be 50 yards away and be about the same size upon the plate that at only 20 yards distance he would be were a lens employed only 3 inches in focal length. This clearly demonstrates the great advantage to be derived from having the longest focal lengthed lens on a hand-camera that its extending movement will permit.

But, as before shown, in order to ensure sharpness in the negatives resulting from its employment, a means of accurately focussing must exist. Now this can only be done by resorting to the ground-glass screen. In certain forms of hand-cameras now on the market this method of focussing is adopted. It is either accomplished by an interior arrangement which reflects the light from the lens upon a mirror until the plate is on the point of being exposed, or in a manner better still, in some respects, by means of dual lenses accurately paired, which move together upon the same rack-work. In this latter form there is, of course, less chance of fogging the plate or of jarring the camera by the jerking movements the working of the interior arrangements render almost unavoidable which exist in the other form. Undoubtedly, the advantages to be derived from the focussing-power cameras of this description confer will in time become so obvious that simple devices for accomplishing the desired object will be considered a *sine qua non* for any camera which is designed for serious work, as opposed to those manufactured to furnish toys for grown-up children.

If, however, the camera does not possess the power of being focussed by means of a screen, a view-finder of some description should be regarded as a necessity. For not only does it enable the operator to regulate the balance of his picture and to give the principal object its correct position, but it also can be made the means of assuring the perpendicular and horizontal lines being correctly parallel. Failure in paying attention to the necessity for holding the camera perfectly square will lead to the production of pictures of a worthless character, in which buildings are unnaturally dwarfed or appear to be built in a tapering fashion. As the hand cannot be made to hold the camera correctly without some guide, and as watching a small level attracts the attention from the view at a time when no distracting element should exist, by all means let the photographer learn to do all that is necessary by means of the view-finder. To enable this to be successfully accomplished, the screen of the finder in which the view is reflected should be of fair dimensions and have faint lines ruled across it, whereby the lines in the picture, running in the same directions, can be made to correspond in correct parallels.

A similar means of producing the same result can be adopted in a hand-camera that possesses the focussing arrangement to which we have before referred, but therein, of course, the screen itself acts as a view-finder, and enables all that is necessary in producing excellent work to be accomplished with the utmost simplicity.

(To be continued.)

NORTH MIDDLESEX PHOT. CLUB.—The ordinary meeting was held on the 9th inst., Mr. Walker in the chair. Mr. G. J. Clarke delivered a lecture on "Photographic Optics." He first described the action of light when entering or leaving one medium of different density to another, so as to make quite plain the action of lenses, and afterwards discussed the defects incident to different lenses, and the means by which they were overcome, illustrating the lecture by means of well-drawn diagrams. A vote of thanks to Mr. Clarke concluded the meeting. On Monday, June 23rd, Mr. W. T. Goodhew will open a discussion on "Development."

Photographic Hints for Beginners.

By C. LYON.

"PRACTICE makes perfect" is an old saying and a true one. Although photography has been wonderfully simplified within the last few years, so much so, indeed, as almost to have been reduced to a mere mixing of two or three chemicals, yet practice is still necessary if we would excel in the art of producing "sun pictures."

Beginners will find that they fail quite as often as they succeed, and what they have first to learn is the cause of their numerous failures. They have followed to the letter the instructions given them, and yet the results are not satisfactory. The negatives are fogged, or they are so thin that there is very little difference between the high lights and the shadows, or else they are so dense that it is difficult to make out the detail.

It is easy to see when a negative is bad, but it is often difficult to find out what is the matter with it; in other words, the plate has been spoiled somehow, and we have got to find out how. If it is fogged, it is probably because light has got to it before or after exposure. If it is "thin," that is to say, lacking in density, it is either over-exposed or too quickly developed; if it is "hard," which means that it prints too black or white, or without detail, it is either under-exposed or over developed, or else, perhaps, too much restrainer has been used in the developer. Experience gained by practice will generally enable one to tell at a glance wherein the fault lies, and, of course, to avoid it in future.

I am writing for beginners, and trust that my hints may help them through most of the difficulties which they are sure to encounter when they first go in for photography.

I will begin by saying a few words on the all-important question of—

Exposure.—What exposure ought I to give? is asked by every beginner, and it is a question that it is by no means easy to answer. We are informed by the maker of the plates we have decided to try, that they correspond to the sensitometer No. 18, or 26, or whatever it may be; but, as beginners, that tells us nothing. We are not even sure whether the plates labelled 26 are twice as rapid or three times as rapid as those labelled 18. We might, indeed, argue that as 26 is not quite $1\frac{1}{2}$ times 18, so the 26 plates could not be more than half as rapid again as the 18 ones. But if we exposed our rapid plates in accordance with this not unnatural assumption, we should certainly spoil them. It seems to me that some standard should be adopted, and plates should be tested and labelled in accordance with this standard. We have adopted a standard "light-measure," which has, I believe, been fixed by Act of Parliament; why should we not have a "standard of rapidity," if I may be allowed the expression, for our dry plates. It would be difficult to fix upon one, I grant, but I see no reason why it should not be done. A plate might be coated with a "standard" emulsion and exposed by means of an electric lamp of a certain power to be agreed upon beforehand. This plate might be called No. 1. Then all brands of plates requiring the same exposure, which could be determined by trial, would also be labelled 1. Slower plates would be labelled 2 or 3 or 4, etc., according to whether they required double or triple or four times the exposure. Faster plates, on the contrary, would be labelled $\frac{1}{2}$ or $\frac{1}{3}$ or $\frac{1}{4}$, etc., according to their rapidity. If this were done, amateurs would be saved an immense amount of trouble and many vexatious failures. We could find out the rapidity of the standard plates in our camera with the different stops, and we should then know what exposure to give to plates labelled, let us say, $\frac{1}{2}$.

As it is, we must find out by repeated trial what exposure is required with the different plates we mean to use. I strongly advise the beginner not to offer to take his friend's house or garden, or to set off on a tour with his camera, until he has practised at home. Failure is always disheartening, and it is especially so when you have taken photographs which you are most anxious should turn out well. I know few things more annoying, when you have taken a group of your friends, say at a picnic, and promised each sitter a copy, than to have to inform them afterwards that the negative is bad. Some one is sure to tell you that at the last picnic *she* was at, *he* took such a lovely view of the party, and every one came out so well, etc., etc. Guard against such annoyances as this by never proposing to take your friends until you have gained such experience at home as to be almost certain to succeed. You will then be the one who took the "lovely view" in which "every one came out so well."

Most beginners over-expose at first, and then go to the other extreme and under-expose. The former error is better than the latter, as an over-exposed plate may, by judicious development, be made into a very fair negative, whereas a plate that is much under-exposed is really useless, as the detail is lost and cannot be forced out afterwards by any process at present known. Beginners cannot do better than practise by taking a number of photographs at different hours of the day, and with stops of different sizes. They will learn more in a short time in this way than by the perusal of whole pages of "Instructions." But they must record the results of their experiments in what may be called an Exposure Book. Every one should keep an exposure book, and it might be arranged somewhat as follows:—One side of the page should be reserved for bright subjects, the other for dark ones. We should note under the heading "Day" whether it was dull or bright, and record the hour, lens, stop, exposure, and remarks—such as over or under exposed (thus + or —), and by about how many seconds it is too much or too little exposed. A better plan would be to print a copy of each negative, stick it into the book, and record under it the month and time of day when it was taken, the lens and stop used, and how it was developed. I am supposing that only the one brand of plates is used; if different brands are tried, of course, the kind of plate must also be noted, as well as the developer employed. One end of the book might be kept for summer exposures, and the other end for winter ones; each end being labelled respectively "Summer" and "Winter." I have only to add that when you are in doubt about your exposures be sure that you give sufficient. If you are taking something that you are very anxious should turn out well, take two (preferably three negatives) of it. Expose one, as nearly as you can guess, correctly, and the other a little longer (and if you have taken a third one, expose it a little less than the first). Develop the former first, and it will enable you to judge how to develop the second (and third), which will very likely be the best. Print them and keep the best.

In practising, to find out the correct exposure, all the plates must be developed in the same way; but as soon as you have gained some experience in exposing you can turn your attention to your developer. Experimentalising with different developers is as amusing as it is useful, and you may rest assured that no one who does not work out the theory of development for himself by actual experiment will ever be a great photographer.

Development must therefore now claim our attention for a time, and to begin you may try the following experiments. Take six photographs of the same subject one after another, using the same lens and stop, and, of course, without moving the camera. Let two be slightly under-exposed, two

over-exposed, and two correct. Develop one of each in the same pyro and ammonia developer which I will suppose you have been using for your exposure experiments. The over-exposed plate will begin to come out first, and will soon be sufficiently developed. The correctly exposed one will come out next, gradually, but sharply, and should take two or three times longer than the other; then, lastly, the under-exposed one will begin to show, the sky and any white objects looking like black or rather very dark patches, and the shadows and badly lighted parts coming out very slowly or not at all. When developed and cleared (fixed), take the three negatives out to the light and compare them. Then proceed to develop the other three, beginning, we will say, with the over-exposed one. You should have your bromide solution (restrainer) in one bottle, your ammonia solution (accelerator) in another, and your pyro dry, that is to say, in powder. But to save trouble in weighing out small quantities of the powder you can make a concentrated solution of pyro for each day's use by dissolving say 32 grs. in 2 ozs. of water (preferably distilled water); each drachm of solution will then contain 2 grs. of pyro, and to make a two-grain solution you have only to put out 2 drms. into a 2 oz. measure glass and fill it up to the 2 oz. line with water.

Now, for your over-exposed plate you must make up a developer with more pyro, the usual quantity of bromide, and no ammonia. You have probably been working with a $1\frac{1}{2}$ or 2 grs. developer, that is, $1\frac{1}{2}$ or 2 grs. of pyro to the ounce; you must now use $2\frac{1}{2}$, 3, or even 4 grs. to the ounce, according to the amount you believe your plate to be over-exposed. A 3 grs. solution will probably be enough for your present purpose, and 2 grs. of bromide. Leave the plate in this for a couple of minutes; then begin to add the ammonia solution in very small quantities at a time, and allowing an interval of some seconds between each fresh addition of the ammonia. You may, in fact, add it drop by drop if the plate is much over-exposed. The result will be that you will get a negative almost if not quite as dense as the one that was correctly exposed.

Now develop the under-exposed one by using rather less pyro than usual less bromide, and more ammonia, or else use a hydroquinone developer, the advantage of which is that a negative can be left in the developer if necessary to force out the detail longer than it could be with pyro and ammonia, which stain the film after a time, and seem unable to force it out beyond a certain point. In cases of known under-exposure it is not a bad plan when developing with pyro and ammonia, to immerse the plate first in a *weak* solution of ammonia to which a small amount of bromide may be added, and then make up a developer with a full allowance of ammonia and somewhat less bromide. This should bring out the details if it be not hopelessly under-exposed. It is often an advantage if the detail comes out sluggishly even after a good deal of ammonia has been added to make up a fresh developer, using, of course, a slight excess of ammonia. By this means you may avoid staining the film.

You can next develop the other correctly exposed plate, using for the purpose a developer similar to the last, that is to say, with a minimum amount of bromide and a maximum amount of ammonia. When these three negatives are finished, print off a copy of each for comparison. The second correctly exposed one will probably be as flat as the first over-exposed one, and will appear to have been more exposed than the over-exposed one which was kept back in the developing. This simple experiment will prove conclusively how much may be done by judicious developing. Of course the over-exposed negative can be intensified; but it is seldom that an intensified negative is quite as good as one that does not require intensifying.

I may add that before you begin to develop, you should have everything you are likely to require ready and near at hand. See that your dishes and measure glasses are clean, have your fixing bath made up, and make sure that there is no hypo on your fingers. Do not get impatient if your picture does not begin to appear as soon as you think it ought. Some of the best pictures come out slowly and would be spoilt if hurried in the developing. The slower the development the greater the contrast; but of course there is a medium in all things, and the development must not be too slow, or the negative will in all probability be injured. The rule to be remembered is—fast development and soft thin negatives; slow development and bright more or less intense and good printing negatives.

Fog.—When your plates are found to fog, you may almost take it for granted that actinic light has got to them either before or after exposure, or possibly during development. How have they "caught the light"? That is what you have to find out, and you had better begin by examining your dark-room. Go in and shut the door, put out the light, and, standing in the middle of the room, wait for a couple of minutes to let your eyes get accustomed to the darkness; then look slowly round, when, if light gets in, you will be sure to see it.

Next try your camera, and to do so without wasting a plate take it out of doors, screw it out as far as it will go, put in the lens, and cap it; then take out the focussing glass, and holding up the camera (in the sun, if possible; at any rate, in a strong light) so that you can see into it, put a dark cloth (a rug will do well) over your head and over the end of the camera, and tuck it round in such a way as to shut out the light. Wait a minute or two, as before, to accustom your eyes to the darkness, and then move your camera about, keeping the cloth over it and facing the sun if possible. If it is not light-tight, a bright ray will be seen to flash in as you move it, and, of course, it will then be necessary to find out where it comes from, which is not very difficult. If you have been using a shutter, you can test it in the same way by putting it on, instead of the cap. The light is almost certain to get in by the slit in the lens-tube for the stops. Some use an india-rubber band for shutting it out; but a safer plan is to bind a cloth round the lens and stop. A good-sized handkerchief will do, and the india-rubber band may be used to keep the handkerchief tight.

Having ascertained that the light does not get into the camera, you can next try the carriers, or "double-backs," as they are sometimes called. To do this you must sacrifice a couple of plates (small ones will do) for each carrier to be tried. Put the plates in and take the carriers out into a good light. Leave them exposed to the light, first one side and then the other, for a short time, and then develop and clear the plates, being careful to remember which carriers they were exposed in. If any are fogged, you will know that the corresponding carriers are not light-tight, and in all probability a careful examination of the same will reveal the defect where the light gets in. To find out whether the light enters between the camera and the carrier, put in a plate and slide the carrier into its place in the camera, cap the lens, and draw out the carrier-slide. Leave the camera a couple of minutes in a good light, and then develop and clear the plate, when, of course, if the light has got in it will be fogged. I should explain that a plate quite free from fog will be almost as clear as plain glass; the gelatine film on removal from the hypo will be just visible through the light. If left some time in the developer, it may get stained, but this can generally be distinguished from fog.

We must remember that all light, even the most non-actinic,

is more or less harmful to gelatine plates, especially to the very rapid ones, and therefore we should not expose them more than necessary to the lamp, or whatever light it is we are using. In putting plates into the carriers do not hold them near the lamp and do not keep them out in the room longer than you need. In developing, it is an advantage to have a piece of stiff brown paper or cardboard to lay over the developing dish when you first put in the plate. My plan is to invert a spare developing tray, a size or two larger than the one I am using, over it. With this tray over my negative I can uncover the light with perfect safety. In a word, you cannot be too careful after as well as before exposure.

Plates are sometimes fogged by carelessness in removing and replacing the cap. It must be slipped off and on as quickly as possible.

In conclusion I would advise you always to time your exposures with a watch. Many photographers guess the time, but it is not a good plan. There is almost always a very great difference between, say, ten seconds as shown by the second hand of a watch, and the same time as computed by counting. In photography, guess work does not answer.

Notes from the Liverpool Centre.

(By our District Editor.)

By the time this issue of the AMATEUR PHOTOGRAPHER is in print, in all probability the steam yacht *Myrtle*, which is to convey the party, including Mr. Paul Lange, to Iceland, will have come round to Liverpool. Mr. Lange's outfit, of which I have seen the greater part, is most complete. It includes his own camera, with special appointments and trappings, a handy changing tent on the umbrella principle, and many other articles of equal importance to the success of the undertaking, at least, so far as the photography is concerned. In Mr. Lange's party will be Mr. R. Talbot Kelly, an artist of the front rank commissioned by the *Graphic* for a series of pictures illustrating Iceland, and Mr. James D. Eastham, journalist. Mr. Geo. Thordahl, the promoter of the Iceland enterprise, is proving himself a vigorous and urbane organiser. The *Myrtle* sails from Liverpool next Thursday, 26th inst.

The correspondence between Mr. C. B. Reader, of the Birkenhead Society, and Mr. J. H. Pickard, of the Birmingham Society, has caused much comment in and about the Liverpool centre. The burden of opinion is that, notwithstanding Mr. Pickard's lengthy communication which appeared in the AMATEUR PHOTOGRAPHER of the 6th inst., Mr. Reader is really right in his contention. The survey of the Hundred of Wirral was most thorough, embracing studies archeological, architectural, ethnological, geological, historical, and the rest, giving complete details in every section. Local scientists, litterateurs, historians, and antiquarians were employed in the survey, no effort being spared in the undertaking. The survey was not "piecemeal work," it was wholly comprehensive, the first of its kind practically undertaken by an organised body, and certainly the first photographic survey fully presented to the public. But I understand that Mr. Reader is himself writing you again in the matter. I have merely given the opinion of photographers up here as I have collected it.

At the coffee meeting of the Liverpool Society held on Wednesday last week, Mr. F. Anyon showed, among other novelties, an ingenious rocker moved by clockwork. The movement can be regulated faster or slower, at will. Mr. Stanistreet exhibited several very fine glass transparencies. He has lately devoted himself to the stereoscopic department of photographic work with flattering success. Mr. Lange showed some of the apparatus for his tour in Iceland. There was a good attendance.

Owing to the Chester Convention, the ordinary meeting of the Liverpool Society will be held this week. Mr. Beaton (J. J. Atkinson's) will exhibit Fallowfield's Facile camera, and Mr. H. H. Smith (Eastman Company) will give a demonstration with the new Kodak camera and rollable transparent film. Five new members are to be elected.

Science Notes.

THE Eastman "rollable" film consists of celluloid, which is made by dissolving a mixture of gun-cotton and camphor in methyl alcohol and amyl acetate. This solution is filtered through fine cotton-cloth, and is then poured upon a table of plate glass which has been previously rubbed over with beeswax. The surface of the film so obtained is somewhat greasy, so it is washed with water containing a little silicate of soda. When dry it is coated with emulsion, dried again, and finally cut up into long strips and wound on rollers. Its thickness is from the two-hundredth to the three-hundredth part of an inch.

Perhaps those who have used this "rollable" film may have noticed one or two straight lines running parallel to the length of the film. We find these to be due to the brass wire springs of the roll-holder, which press on the film and make a mark in it as it revolves. The roll of film seems to be a trifle thicker than the previous paper rolls, for they were not affected in this way.

The famous French astronomer, M. J. Jansen, has been photographing the telluric (or atmospheric) lines in the solar spectrum by the aid of Isochromatic plates, a Rowland grating, and the pure air of Algeria.

Possibly the resolve alluded to in our last week's "Notes," to appoint four ladies as photographic assistants in Greenwich Observatory, may be due in part to the excellent work done in America last year by Miss Maury and Mrs. Fleming in connection with the Henry Draper Memorial Scheme for the photographic study of stellar spectra. A distinguished astronomer writes of the work of these two ladies: "It is eminently worthy of record that Miss Maury has studied and classified the spectra photographed with the 11-inch telescope, and that the discovery of the duplication of the lines in β Aurigæ, and the bright lines in the spectra of Pleione and π Aquarii, were also made by her; while nearly all the measures of the photographs taken with the Bache and Draper 8-inch telescopes were made by Mrs. Fleming, under whose direction the computation and preparation of the catalogue of 10,000 stars has also been made."

The "Spencer War Balloon" has been ascending from the Royal Military Exhibition, and a number of photographs have been secured from it with Shew's "Eclipse" camera, the silver lining of the clouds with the shadow of the balloon as projected by the sun forming a most interesting subject.

M. P. Lenard writes to *Nature* stating that he succeeded in photographing, some years ago, the falling drops of water recently photographed by Mr. C. V. Boys. Copies of M. Lenard's photographs appeared in the *Annalen der Physik und Chemie* for 1887.

Mr. Shelford Bidwell delivered a lecture at the London Institution, on February 10th, on "Electrical Phenomena in Nature," in which he states bluntly that "the lightning flash of artists which is familiar to us from innumerable pictures, and of which a venomous-looking zig-zag is a fair example, *has no existence in nature*;" and he adds that "photography has given the coup de grace to the traditional forked lightning."

Mr. Bidwell thinks that the mystery of the "dark flashes" of lightning sometimes obtained on a photographic plate has been "completely cleared up" by the researches of Mr. Clayden, who finds that "if the lens of the camera be covered the moment after a flash has occurred, the developed image will always come out bright, feebly or strongly, according to circumstances. If, however, the plate be exposed after a flash has acted upon it, either to the continued action of a feeble diffused light, or to the powerful glare arising from one or more subsequent flashes, then on development the image of the original flash will probably come out black."

As this is the "thunderstorm season," we earnestly hope that dark-slides will be kept "ready charged," and that no opportunity will be lost of securing valuable records. During the daytime the uncertain occurrence of the lightning-flash makes it difficult to photograph; but at night it is only necessary to point the camera in the direction of the thunderstorm, uncapping the lens, and then capping it again directly after a flash has occurred.

The *Star* last week contained some reproductions of instantaneous photographs taken by Mr. O'Brien with a Kodak, illus-

trating the "shadowing" of patriots in the Emerald Isle by the police. Varied are the uses of photography!

The use of celluloid films ought to make more possible the formation of a club for the circulation of negatives. Films travel so safely and inexpensively by post that a dozen or twenty workers in different parts of the kingdom could secure a varied collection of prints and lantern-slides with great ease by this plan.

F. G. S.

Holiday Resorts and Photographic Haunts.

VENTNOR AND NEIGHBOURHOOD, ISLE OF WIGHT.

By WENTWORTH A. J. CROKE.

VENTNOR has been rightly termed the English Spa; it is most peculiarly built in terraces and helps to remind one of a town on the Riviera. It is indeed a lovely spot, answering exactly both to a holiday resort and photographic haunt. The cliffs are especially fine all along the sea-coast, and lend themselves most readily to photography. It has a wonderful climate, being warmer in winter, but cooler in summer, than any other place; consequently it is a great health resort, although many people think that seeing so many invalids about gives an element of sadness to this otherwise perfect place. Ventnor is decidedly the best place in the Isle of Wight to make a centre, as most other parts of the island are within easy excursions either by road or rail. It is not an easy place to get to from London—far from it; you go from Waterloo to Portsmouth (London and South-Western Railway, or London, Brighton, and South Coast), from Portsmouth to Ryde by boat, and from thence to Ventnor by the Isle of Wight Railway. But let me caution my readers before starting to make sure that there is a boat to meet the last train from London at five, getting to Portsmouth at 7.15, as a boat is only run to meet that train in the summer months, and one is apt to find one's self landed at Portsmouth for the night. Ventnor is essentially a place of hotels, but lodgings generally are cheap—at least, that has been my experience. Several of the hotels have dark-rooms attached to them, viz., the Crab and Lobster, which has the original old inn of one storey still standing by its side; this was one of the first houses ever erected in Ventnor. Then there are the Queen's Head, the Royal Marine, and Rayner's Temperance Hotels; other hotels, of which there are several, I cannot speak with the same certainty. But those who are not staying at the hotels will find the dark-room of Messrs. Thompson, of Pier Street, the principal photographers of the town, at their service; here, also, plates are kept, though, of course, at a slightly advanced price to those of the same make to be obtained in London.

Ventnor, which is the capital of the Undercliff, was styled by Cuthbert Bede "A sunlit town that sits basking in the lap of nature and is mirrored by the sea."

Sir James Clark was the first medical man who drew the attention of all Britain to the advantages of Ventnor as a winter resort. The western esplanade—which is a favourite place of resort both in summer and winter—was formed round the cove in 1848. There is a fine pier, measuring 650 ft. long by 25 ft. broad; from the end of this many pretty views of the town and downs are to be taken. Following the beach westward for about a mile, you come to Steephill Cove. This cove is terraced with the most picturesque little fishermen's cottages, and are backed by the lofty downs, which form a shelter from the winter gales. Here some of the prettiest photographs it has ever been my pleasure to take are to be obtained. The shore is covered with fine shingle, known as "Ventnor Diamonds." The coast scenery near Ventnor is very varied and pretty, especially westward towards Steephill; near Bonchurch it is bolder and less picturesque.

Bonchurch is one of the oldest villages in the island. A good view of this little village is obtained from St. Boniface Down, which is 783 ft. above the sea; also the Pulpit Rock, which is well worth a visit. One of the most interesting spots here is the old church, which dates from 1070; here it was that St. Boniface is said to have landed. The churchyard, which is generally admitted to be one of the most lovely spots in England, has been closed to the general public through the inconsiderateness of excursionists. While at Ventnor a visit to St. Lawrence will well

repay the tourist; it is a distance of about two miles. On the summit of the hill is an ivy-covered church, originally the smallest in the kingdom, measuring only 22 ft. long, 11 ft. broad, and just over 4 ft. high. Another place that I must not forget to mention is Shanklin, a walk of three and a half miles: it is indeed a typical old English village; the cottages in summer are covered by honey-suckle and plants that flourish well in the open air. A mile and a half further on is Luccombe Chine, one of the prettiest spots in the whole island; it can be reached either by shore or cliff—if taking the former the tide should be noticed.

Other places of interest within easy distance from Ventnor are Appuldurcombe, Newchurch, Wootton, Newport, and Carisbrooke Castle. One of the best ways of seeing the island in a short space of time is to take a passage in one of the many coaches. One of the drives I can especially recommend is to go by Webber's four-horse coach that leaves No. 32, High Street, every day (Sundays excepted), at 10.10, returning to Ventnor at 7 o'clock, in time to catch the 7.50 train to Ryde. The coach passes Sandrook, Blackgang, Brixton, arriving at Freshwater Bay Hotel at 1.15, returning at 4 o'clock p.m. from Freshwater. In the journey three teams of horses are employed. The fares are—Freshwater return, 6s.; single, 5s. Alum Bay, return, 7s. 6d.; single, 6s.

There are many other excursions leaving the town at all times during the day. I only mention this one as embracing so many places.

Strangers will find "Wayland's Guide to the Isle of Wight, Portsmouth and Dockyard," with large map, useful for more minute details, historical and otherwise.

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IN AND AROUND BURNHAM.

By T. BAKER.

BURNHAM is situated at the entrance to the Bristol Channel, and being quite open to the Atlantic, is very bracing; but on account of the absence of trees near the shore, and the great expanse of sand, the heat at times is great. I have not one negative left of a series taken some years ago; but wishing for some, the following notes may be helpful to "W. H. W." or others who may be visiting Burnham.

There is no convenient dark-room available, but I arranged for one on a former occasion, and got on very well. Before taking a series of views at Burnham, the same rule applies there as at other places with regard to being all things to all men, and at Burnham especially, to all women as well, because the lengths of sand and road are frequently considerable, and by the exercise of a little tact on two occasions, ladies kindly consented to make a foreground—once a school added to what might have been a dull picture, and even the Burnham donkeys and bathing machines, not to forget the boatmen and boats, all willingly lent their aid. As to pictures—1. Go down the landing stage as far as you can, when there is a good light on the esplanade, and get a few boatmen's children, also dogs and donkeys, as a foreground, and you get a fine general view. 2. Half-way along the esplanade, near the church, taking care to choose a time when the seats along the wall near the entrance to the church are occupied. 3. Catherine and Julia Terraces, near the end, taking an opportunity when one of the schools are out, and if suitably asked, they will make a splendid foreground. 4. A very picturesque group can easily be arranged on the terrace steps, and shows well on a picture. 5. Take the bathing machines as a foreground, and the low lighthouse as a background, having as many figures as possible in between. 6. Over the hills, the high lighthouse from the Berrow Road makes a most unique picture. Then—7. Having asked permission, the entrance lodge to the "Colony" will be found to be a fine ivy-covered cottage, and—8. The Colony is also well worth a plate. 10. The trees at the entrance to the Berrow Road, with a horse and cart coming along—a grey horse, if possible—also make quite a picture, and 11. The best point for the church is from the town street, near the lawyer's office. 12. Do not forget the unsectarian adult school, which, although a new building, is one of the features of Burnham, and 13. I am told the cemetery makes a good picture. In the neighbourhood, Berrow should be the first walk, for, 14. Berrow Church, and, 15. Berrow village; then High Bridge, where, 16. the church, and, 17. the docks, are the main feature. Glastonbury, Brent Knoll, and various parts of the turf moor, such as Edington and Shapwick, are in easy distance. Any one calling on me at Clevedon, will be welcome to more information than the Editor would care to print.

Register of Dark-Rooms, 1890.

The following "Dark-Rooms" have been placed at our disposal. We class them in four divisions, *i.e.*, *a* amateur, *d* dealer or professional, *h* hotel, and *s* photographic society.

In our letter of introduction full particulars are given as to owner, address, charges (if any); plates, chemicals, etc., kept by dealers; terms for temporary membership of societies; hotels; distance from station, etc., etc.

Every application for letter of introduction must be accompanied by SIX PENNY STAMPS. The owner of "Dark-Room" will be advised by same post as the applicant. The envelopes should bear the endorsement DARK-ROOMS.

<i>d</i> Aberdeen	<i>a</i> Chesterfield	<i>a</i> Four Ashes, near
<i>d</i> Aberystwith	<i>a</i> Chipping Sod-	<i>d</i> Stourbridge
<i>d</i> Addingham	<i>a</i> bury	<i>a</i> Frodsham
<i>d</i> Amble	<i>a</i> Cinderford	<i>a</i> Galashiels, N.B.
<i>d</i> Andover	<i>d</i> Cirencester	<i>h</i> Giant's Causeway
<i>a</i> Aylesbury	<i>h</i> Cirencester	<i>Ireland</i>
	<i>d</i> Clacton-on-Sea	<i>d</i> Glasgow
<i>d</i> Barmouth	<i>s</i> Cleckheaton	<i>d</i> Glasgow
<i>a</i> Barnsley	<i>d</i> Clevedon	<i>d</i> Glasgow
<i>d</i> Barnstaple	<i>d</i> Clifton	<i>s</i> Glasgow
<i>d</i> Bath	<i>a</i> Clitheroe	<i>d</i> Gloucester
<i>s</i> Bath	<i>d</i> Colchester	<i>d</i> Gorleston
<i>h</i> Beaconsfield	<i>d</i> Colchester	<i>d</i> Gorleston
<i>a</i> Bedford	<i>h</i> Colnbrook	<i>a</i> Goring
<i>d</i> Belfast	<i>d</i> Colwyn Bay	<i>a</i> Gravesend
<i>s</i> Belfast	<i>a</i> Coniston	<i>d</i> Great Yarmouth
<i>d</i> Belper	<i>d</i> Crewe	<i>a</i> Halifax
<i>d</i> Belper	<i>s</i> Crewe	<i>d</i> Handsworth
<i>d</i> Bexhill-on-Sea	<i>d</i> Crewkerne	<i>d</i> Hanley
<i>d</i> Birchington-on-	<i>d</i> Croydon	<i>d</i> Harrogate
<i>Sea</i>		<i>d</i> Hastings
<i>a</i> Birmingham	<i>a</i> Dalton-in-Fur-	<i>h</i> Hastings
<i>d</i> Birmingham	<i>ness</i>	<i>s</i> Havant
<i>d</i> Birmingham	<i>d</i> Darlington	<i>d</i> Hereford
<i>s</i> Birmingham	<i>h</i> Dartmouth	<i>d</i> Herne Bay
<i>d</i> Blackburn, Lancs.	<i>d</i> Derby	<i>d</i> Hexham
<i>h</i> Bodiam	<i>a</i> Devizes	<i>h</i> Holbeach
<i>d</i> Bodmin	<i>h</i> Dingwall, N.B.	<i>d</i> Huddersfield
<i>h</i> Bonar Bridge	<i>a</i> Doncaster	<i>a</i> Hull
<i>h</i> Boro' Bridge	<i>d</i> Douglas, Isle of	<i>d</i> Hull
<i>d</i> Bournemouth	<i>Man</i>	<i>d</i> Ilfracombe
<i>d</i> Bournemouth	<i>a</i> Douglas, Isle of	<i>d</i> Ipswich
<i>d</i> Bradford	<i>Man</i>	<i>s</i> Ipswich
<i>d</i> Bradford	<i>h</i> Douglas, Isle of	<i>d</i> Jarrow
<i>d</i> Bramley, near	<i>Man</i>	<i>d</i> Jersey
<i>Leeds</i>	<i>d</i> Dover	
<i>h</i> Brechin, N.B.	<i>d</i> Dover	<i>d</i> Keighley
<i>d</i> Brechin, N.B.	<i>d</i> Dublin	<i>d</i> Keighley
<i>d</i> Bridlington Quay	<i>d</i> Dublin	<i>s</i> Keighley
<i>d</i> Bridlington Quay	<i>h</i> Dublin	<i>a</i> Kendal
<i>h</i> Brigg	<i>h</i> Dunblane, N.B.	<i>a</i> Kimberley
<i>d</i> Brighton, Hove	<i>d</i> Dundee	<i>d</i> King's Lynn
<i>h</i> Brighton	<i>s</i> Dundee	<i>a</i> Kingstown, Dublin
<i>d</i> Brighton	<i>a</i> Dungarvan	
<i>d</i> Bristol	<i>a</i> Duns	<i>h</i> Lancaster
<i>d</i> Bristol	<i>d</i> Durham	<i>d</i> Lancaster
<i>d</i> Bristol		<i>d</i> Lancaster
<i>d</i> Bristol	<i>h</i> East Grinstead	<i>d</i> Larne
<i>h</i> Broadway,	<i>h</i> Ebbw Vale	<i>d</i> Leamington
<i>Worcester</i>	<i>d</i> Edinburgh	<i>h</i> Ledbury
<i>d</i> Bromley	<i>d</i> Edinburgh	<i>d</i> Leeds
<i>h</i> Brough	<i>d</i> Edinburgh	<i>d</i> Leeds
<i>s</i> Burnley	<i>d</i> Edinburgh	<i>a</i> Leeds
<i>d</i> Burslem	<i>s</i> Egremont	<i>d</i> Leicester
	<i>a</i> Enfield Town	<i>d</i> Leicester
<i>h</i> Callender, N.B.	<i>a</i> Evesham	<i>a</i> Leicester
<i>h</i> Camborne	<i>d</i> Evesham	<i>a</i> Leicester
<i>d</i> Cambridge	<i>d</i> Exeter	<i>a</i> Lenzie, N.B.
<i>h</i> Cambridge		<i>d</i> Leytonstone, Es-
<i>h</i> Capel-Curig, N.W.	<i>s</i> Falkirk	<i>sex</i>
<i>a</i> Chalfont St.	<i>d</i> Falmouth	<i>d</i> Lincoln
<i>Peter</i>	<i>d</i> Faversham	<i>d</i> Liverpool
<i>d</i> Cheltenham	<i>d</i> Felixstowe	
<i>d</i> Cheltenham	<i>d</i> Finchley	
<i>d</i> Chestow	<i>h</i> Fochabers, N.B.	
<i>d</i> Chester	<i>d</i> Folkestone	
<i>d</i> Chester		

<i>d</i> Liverpool	<i>a</i> Northallerton
<i>s</i> Liverpool	
<i>d</i> Llandudno	<i>a</i> Oban
<i>d</i> Llanidloes	<i>s</i> Oldham
<i>h</i> London, Alders-	<i>a</i> Oxford
<i>gate, E.C.</i>	
<i>a</i> London, Blooms-	<i>h</i> Paignton
<i>bury</i>	<i>h</i> Paisley, N.B.
<i>d</i> London, Borough	<i>d</i> Penrith
<i>S.E.</i>	<i>d</i> Penzance
<i>a</i> London, Chelsea	<i>d</i> Benzenace
<i>d</i> London, Fen-	<i>d</i> Pershore
<i>church Street,</i>	<i>a</i> Perth
<i>E.C.</i>	<i>a</i> Poole
<i>d</i> London, Fleet	<i>h</i> Port Erin, Isle of
<i>street, E.C.</i>	<i>Man</i>
<i>d</i> London, High-	<i>d</i> Preston
<i>gate</i>	<i>h</i> Prince's Risboro'
<i>a</i> London, Kings-	
<i>land, N.E.</i>	<i>d</i> Reading
<i>London, London</i>	<i>h</i> Redcar
<i>Bridge</i>	<i>h</i> Redditch
<i>d</i> London, New	<i>d</i> Rhayader
<i>Cross</i>	<i>d</i> Richmond, Surrey
<i>d</i> London, Wal-	<i>a</i> Ringwood, Hants
<i>worth Road,</i>	<i>d</i> Rochdale
<i>S.E.</i>	<i>a</i> Rodley, near
<i>v</i> Long Eaton	<i>Leeds</i>
<i>h</i> Long Melford	<i>d</i> Romford
<i>d</i> Loughborough	<i>d</i> Royston
<i>a</i> Louth	<i>d</i> Ryde, Isle of
<i>a</i> Ludlow	<i>Wight</i>
<i>d</i> Lynn	<i>h</i> Ryde
<i>a</i> Lythe, Whitby	
	<i>a</i> St. Agnes
<i>h</i> Macroom, N.B.	<i>h</i> St. Asaph
<i>a</i> Madeley, Salop	<i>d</i> St. Bees
<i>d</i> Maidenhead	<i>a</i> St. Helens
<i>d</i> Manchester	<i>d</i> St. Heliers
<i>h</i> Mallow	<i>a</i> St. Ives
<i>a</i> Malta	<i>d</i> St. Leonards
<i>d</i> Malvern	<i>h</i> St. Mellons
<i>d</i> Mansfield	<i>h</i> St. Neots
<i>d</i> Margate	<i>d</i> Sandgate
<i>h</i> Merthyr Tydfil	<i>d</i> Sandown, Isle of
<i>d</i> Merton	<i>Wight</i>
<i>d</i> Middlesborough	<i>a</i> Scarborough
<i>d</i> Minehead	<i>d</i> Scarborough
<i>h</i> Minmouth	<i>d</i> Scarborough
<i>d</i> Montrose, N.B.	<i>h</i> Seddlescomb,
<i>a</i> Mountsorrel	<i>near Battle</i>
<i>a</i> Mumbles, near	<i>a</i> Shaftesbury
<i>Swansea</i>	<i>d</i> Shanklin, Isle of
	<i>Wight</i>
<i>d</i> Newark	<i>s</i> Sheffield
<i>h</i> Newbury	<i>d</i> Sheffield
<i>d</i> Newcastle-on-	<i>d</i> Sheffield
<i>Tyne</i>	<i>h</i> Shepton Mallet
<i>d</i> Newcastle-on-	<i>d</i> Shrewsbury
<i>Tyne</i>	<i>h</i> Sleaford
<i>d</i> Newport (Mon.)	<i>h</i> Southampton
<i>a</i> Niton, Isle of	<i>d</i> Southampton
<i>Wight</i>	<i>h</i> Southend-on-Sea
<i>d</i> Norwich	<i>a</i> Southport
<i>d</i> Nottingham	<i>d</i> Southsea
<i>d</i> Nottingham	<i>s</i> Southsea

<i>a</i> Stamford
<i>a</i> Steyning
<i>d</i> Stockton-on-
<i>Tees</i>
<i>a</i> Stoke-on-Trent
<i>a</i> Stony Stratford
<i>d</i> Stourbridge
<i>d</i> Stourbridge
<i>d</i> Stratford-on-
<i>Avon</i>
<i>h</i> Stratford-on-
<i>Avon</i>
<i>d</i> Stroud
<i>h</i> Sudbury, Suffolk
<i>d</i> Sunderland
<i>h</i> Sutton Bridge
<i>d</i> Swindon
<i>d</i> Taunton
<i>a</i> Tavistock
<i>a</i> Thornton Dale
<i>nr. Pickering</i>
<i>h</i> Thorpe
<i>h</i> Tintern Abbey
<i>d</i> Todmorden
<i>d</i> Torquay
<i>d</i> Torquay
<i>h</i> Tring
<i>d</i> Tunbridge Wells
<i>a</i> Tynemouth
<i>s</i> Uttoxeter
<i>a</i> Ventnor
<i>h</i> Wadebridge
<i>d</i> Wakefield
<i>h</i> Warwick
<i>a</i> Waterford
<i>d</i> Waterford
<i>a</i> Wellington,
<i>Salop</i>
<i>s</i> West Hartlepool
<i>d</i> Weston-super-
<i>Mare</i>
<i>d</i> Weston-super-
<i>Mare</i>
<i>h</i> Wetwang, York
<i>d</i> Weymouth
<i>d</i> Whitby
<i>d</i> Whitby
<i>d</i> Wimbledon
<i>h</i> Windsor
<i>d</i> Windsor and
<i>Eton</i>
<i>d</i> Wisbech
<i>a</i> Wolverhampton
<i>a</i> Worcester
<i>h</i> Worthing
<i>d</i> Worthing
<i>a</i> Yarm
<i>d</i> Yeovil
<i>a</i> York
<i>d</i> York
<i>d</i> Youghal

Societies' Meetings.

NOTE.—In this column the Editor can, of necessity, only give a brief summary of the proceedings. The PHOTOGRAPHIC SOCIETIES' REPORTER was established to report the transactions of Societies, and the Editor will be glad to receive reports for insertion as early as possible after the meetings have been held, and at the latest before the 24th of each month.

BIRKENHEAD PHOT. SOC.:—The monthly meeting was held last Thursday, 12th. Mr. P. H. Phillips, President, filled the chair, the attendance being good. The work done in the recent outdoor competition was on view, and letters were read from the adjudicators, Messrs. R. Hartley and G. E. Thomson, announcing that in their opinion the set of pictures sent in by Mr. George

Latimer were the best. Mr. Latimer, therefore, receives the silver medal offered by the Association. The winning set was greatly admired, as much for the exceptionally novel and artistic manner in which they were mounted, as for the high point of excellence attained in the photography proper. Reference was made to the correspondence with the Birmingham Association in regard to the origin of photographic survey, the meeting cordially supporting the position taken up in the contention by the Hon. Secretary, Mr. C. B. Reader. Mr. J. MacDonald Bell exhibited several novelties, and Mr. J. A. Forrest gave his paper on "The most Effective Means of Protecting the Sensitive Plate during Development."

BRIGHTON PHOT. SOC.:—The ordinary meeting was held on the 10th inst., the President in the chair. Mr. A. H. C. Corder read a paper on "Platinotype," and demonstrated the hot-bath process; he also showed specimens of the improved printing-out paper introduced by Mr. S. B. Harcastle. Mr. E. J. Bedford made a few remarks on the cold-bath process, and handed round several prints produced by that method. Considerable interest was aroused by the simplicity and quickness with which prints are produced. A large number of prints from negatives taken on Whit Monday excursion to Newick were shown. Next excursion to Steyning, on Saturday, June 28th; train leaves Brighton terminus at 2 p.m.

DEWSBURY AM. PHOT. SOC.:—The monthly meeting was held on June 12th, Mr. J. Taylor in the chair. A letter from the Yorkshire Naturalists' Union, asking the co-operation of members in securing objects of geological interest, was read. A goodly number of negatives, prints, and transparencies was handed round to members. There was a large variety of subjects—landscape, seascape, genre, cattle studies, instantaneous, etc. Most of them were of a high-class order. Mr. Mitchell next gave a demonstration of Alpha paper printing. A negative was selected out of those shown. It was then placed into a printing frame, and a piece of Alpha paper behind. It was next exposed to a gas flame, after which it was developed, and toned and fixed in one bath, the resulting picture being all that could be desired. The whole of the operations were conducted in the presence of the members, and elicited their admiration for the ease and simplicity of manipulation in producing prints.

HACKNEY PHOT. SOC.:—On Thursday, 12th inst., Mr. A. R. Dresser gave a paper on "Hand-Cameras," the President in the chair. Mr. Dresser spoke of the qualities of the cameras shown, viz., Kodak, Rouch's, Facile, Ideal, etc. He used one of his own construction, with which any exact exposure could be made up to the one-three-hundredth of a second. For lenses he preferred a quarter-plate Voigtlander wide-angle. He showed enlargements from pictures taken with it, and they could scarcely be told from ordinary contact prints. He advised the use of Eastman's new films. A discussion ensued, in which Messrs. H. Crouch, J. O. Grant, Dean, the Secretary, and President took part. The President referred to lightning marks in the Eastman paper. Mr. Smith (Eastman Company) said that this was a thing of the past, and that the paper was now much improved. Mr. Abraham showed his new improved Ideal camera, fitted with Taylor's lens and new focussing arrangements, also the Victor hand-camera. Mr. Dresser's slides were then put through the lantern, some very rapid work of his being shown, viz., "The Jumping Dog," three boys jumping, all being off the ground, etc.

HOLBORN CAMERA CLUB:—On Friday, 13th inst., Mr. Plumbridge read a paper from Abraham's Annual by A. R. Dresser, Esq., on "Hand-Cameras," which was listened to with attention by about twenty members, who afterwards had an interesting discussion on the subject. On Saturday, 14th, seventeen members went by train to Laindon Hills under the leadership of Mr. Luxton. Some seventy or eighty plates were exposed.

IPSWICH PHOT. SOC.:—The usual monthly excursion took place on Saturday afternoon the 14th inst., when a pair-horse brake took a baker's dozen of the members to Capel St. Mary, stoppages being made on the way at Washbrook and Copdock, to photograph the village streets and churches. At Copdock the "animal" photographer had a happy half-hour among a herd of cows, undeterred by the presence of a Mr. Bull, while the ecclesiastical enthusiast was busy with the church. At Capel St. Mary a universal attack was made on the church, and there seemed to be an unusual number of interior workers, two of the prominent members having recently purchased W. A. doublets,

which they are no doubt anxious to try. At Capel the Rector (Rev. A. C. Johnson) kindly invited the party to the Rectory, where tea was provided by Mrs. Johnson, after which two groups were taken on the lawn by the "military" photographer. Mr. Johnson having obtained leave for the party to visit Little Wenham Hall, a general move was made thereto; but, alas! this most picturesque and interesting corner of Suffolk could hardly be done justice to, for the light was wretched. The old hall, now used as a granary, with its ivy-clad walls, the new hall, the moat, and the funny little old church would furnish half-a-dozen good pictures.

PAISLEY PHOT. SOC.:—On the afternoon of Saturday the 14th inst. the third outdoor excursion of the season took place. About twenty members and friends gathered at Gilmour Street Station, shortly before three o'clock, and proceeded by G. and S. W. Railway to Howwood, having received an invitation from J. W. Shand Harvey, Esq., to visit the beautiful and extensive policies of Castlesemple. On arrival, the party were received by the head keeper, who acted as guide, and pointed out the various places of note, supplying a great deal of local information which made the visit both interesting and instructive. Pictures were had by some of the members, of the mansion house, and of the ruins of the old Chapel, or "College," as it is locally known, where many generations of the lords of the manor lie buried. Within the policies are some fine bits of wooding and plantation—the timber in many places being very luxuriant and picturesque. One of the sylvan giants attracting general attention was a very fine specimen of the cedar of Lebanon. Some charming views of the loch, with the island and wild swans, can be had from the pleasure grounds in front of the house. About six o'clock the company assembled at the mansion, where a number of groups were photographed and refreshments supplied by the host. In the absence of the President, Mr. Morrison in suitable terms acknowledged, on behalf of the Society, the great privilege which had been extended to the members, and the kindness and hospitality they had received at the hands of the laird of Castlesemple. During the afternoon there were exposed six whole, fifty-four half, and fifteen quarter plates.

SHEFFIELD PHOT. SOC.:—The members held their annual excursion on the 11th inst., the venue being Bolton Abbey and Woods. By invitation a goodly number of members of the Rotherham Photographic Society joined the train at Masbro', arriving at Bolton about 11 o'clock, when a general move was made for the Abbey, and on comparing notes it was found that altogether fifteen cameras had been used, and about 145 plates exposed and ten Eastman films.

STOCKPORT PHOT. SOC.:—The first annual meeting was held on the 11th inst., Mr. W. Banks in the chair, when the report showed a membership roll of forty members, with a cash balance in hand and an amount of £8 3s. towards the optical lantern. During the year there have been several demonstrations, by Mr. W. P. Wilkinson (of London), Mr. H. Cooper, Mr. F. Brooke, and other members; lantern exhibitions by Mr. J. Davenport, President of the Manchester Amateur Society, and Mr. H. Cooper. Rambles have been held in the various nooks and corners of Cheshire and Derbyshire, good results being shown at the meetings. The following were elected as officers for the year:—President, Mr. Thomas Kay J.P.; Vice-Presidents, Mr. Thos. Hilderley and Mr. W. Banks; Committee, Messrs. H. Heginbotham, G. Froggat, G. Ball, jun., H. Robinson, J. Pollard, W. Gourley; Hon Treasurer, F. Brooke; Hon Sec., C. Dawson (32, Heaton Lane, Stockport).

WOOLWICH AND DISTRICT PHOT. SOC.:—The monthly (indoor) meeting was held on the 11th inst. Mr. Mittelhausen was voted to the chair. The meeting commenced with an exhibition of negatives and prints taken on the last excursion to Bostal and during the Whitsuntide holidays. Mr. Corder's views of the neighbourhood on 12 by 10 plates, including many interiors, were much admired. The next meeting was arranged for Eltham on June 21st; in the churchyard at 3.30 p.m.

WEST KENT AM. PHOT. SOC.:—A special meeting was held on the 11th inst., the President, Mr. Pringle, in the chair. The President notified award of silver medal for best of twelve lantern slides to Mr. E. J. Crowe; and silver medal for best paper read at Society's meetings was awarded to Mr. J. Reeves. Mr. Adams having resigned his position as Hon. Secretary, Mr. Edward Hawkins was elected to the post. The remainder of the evening was spent in discussing various photographic topics.

To Correspondents.

THE insertion of **QUERIES** and **ANSWERS** is attended with much labour, and it is requested that the questions asked and the answers given shall be short and to the point. No charge is made.

All communications for these columns are to be addressed to **The Editor, "Amateur Photographer," 1, Creed Lane, Ludgate Hill, London, E.C.**

RULES.

1. Write clearly and distinctly on one side of the paper only.
2. Write each Query or Answer on a separate sheet of paper.
3. Write the name and address legibly on the back of each communication, and sign all Queries and Answers with name or *nom de plume*.
4. All matters for these columns **MUST** be received by **TUESDAY MORNING'S POST**.
5. The Editor does not undertake to answer questions by post.
6. In answering Queries, correspondents are requested to mention, in every instance, the number and full title of the query referred to.

QUERIES.

3912. Church Interiors.—Will anyone inform me the best plates to use for photographing the interior of a church, the said church being very dark, with a tower up the middle, and the east window (a very large one) is of very thin glass, and consequently, the nave of the church requiring a long exposure, the window is most frightfully over-exposed; in fact, I can get no detail of the chancel in at all. Any information would greatly oblige.—**ST. GILES.**

3913. Photo-Micrography.—I wish to try my hand at photo-micrography, but cannot go to the expense of an objective. Can I use any other magnifying glass in place of this, that would be less expensive, such as a focussing eye-piece? Any information will be gladly received.—**FOGGE.**

3914. Copying Plans.—What is the most inexpensive method of copying a plan of a town, and where would be the best place to have it done?—**BAKER.**

3915. Gloss.—You may obtain a gloss on photographic prints in three ways, viz.: 1. By burnishing; 2. By using encaustic paste; 3. By enamelling with collodion. Encaustic paste, and enamel collodion, are sold in small and large sized bottles, with full directions on the label.—**J. B. PAYNE.**

3916. Toning Bath.—Will someone kindly give me toning bath with instructions for "Aristotype" paper?—**W.**

3917. Germany.—Can Ilford plates be got in Berlin, and at whose shop? Is there any difficulty in getting plates through the Custom Houses at Hamburg and West Hartlepool without having them spoilt? I am going by that route.—**DROFLI.**

3918. Tyrol.—Will anyone kindly give me any hints respecting exposure in the Austrian Alps? I use Marion's R.R. "Soho" lens, and Ilford ordinary plates. Also do plates need backing for snow scenes?—**G. R.**

3919. Surrey.—Can some brother amateur kindly indicate to me any views worth "taking" in S.W. district, within easy distance of Clapham Junction, and also if a permit is necessary for taking views in Hampton Court Park and Gardens; if so, from whom?—**CHAPPELL.**

3920. Lenses.—Could anyone tell me if Taylor's quarter-plate rapid rectilinear lens is as good an all-round lens as I can get for £3? Also, what size lens ought I to have to use with a rising front to cover quarter-plate, when the front is raised, say, 1 inch, as if I use quarter-plate lens, would not the bottom of the plate have no image on it?—**W. BELLWIS.**

3921. Hypo.—Does the addition of ammonia to the hypo bath take away from its fixing power? If not I should like to use it, as I am told it prevents the negative bleaching in the hypo, which in my case, at any rate, it is very liable to do. If some brother amateur could give his experience in the matter, and could tell me how to prevent its bleaching or fading, I should be much obliged?—**W. BELLWIS.**

3922. Norfolk Broads.—I shall be spending a fortnight on the Norfolk Broads this August, and should feel obliged if anyone could give me any hints as to what to take, right time of day, etc.—**B. WORT.**

3923. Rapidity of Eastman Film.—Can anyone inform me what is the rapidity of the new roller celluloid film of the Eastman Company? I use

Wormald's tables, and should be glad to know how to use them with this film.—**B. WORT.**

3924. Touring in Oxfordshire.—As I intend visiting Witney during the summer months, will anyone kindly give information of "choice bits," "places of interest," dark-rooms where plates can be had, and of places where a day's excursion will be required, and best time of day, and if any permit is needed, and from whom?—**G. KILBURN.**

3925. Burnishing.—Having sent some cabinet photographs to be burnished, I was surprised to find the backs of the cards grooved by the roller, and some even had the surface paper peeled off. When I asked the burnisher the cause of it, he told me some starch must have got on the back when mounted. Can any kind reader please tell me the cause?—**STARCE.**

3926. Plate Makers' Developers.—Will anyone explain the reason why the majority of dry-plate makers, in publishing their developer formulae, invariably put the bromide with the ammonia (I refer to the ordinary two-solution developer of pyro bromide and ammonia)? This arrangement of developer seems peculiar, since the ammonia being an accelerator and the bromide a restrainer, it clearly follows that these two chemicals when contained in one solution must act in direct opposition to each other on the plate. Doubtless the small proportion of bromide given to that of the ammonia in this class of developer allows the latter to overcome, as it were, the restraining properties of the bromide, but still the bromide is there to arrest in a measure the action of the ammonia. If bromide is so essential in a developer as a restrainer, why not put it in the pyro solution and keep the ammonia solution free for action, so to speak; this would practically mean keeping both restrainers together. I have frequently been engaged in preparing developers, and in the case of the kind referred to always adopt the latter course of procedure, but, judging from the numerous formulae published in the manner I have mentioned, that there must be some hidden reason, any suggestion as to that reason would oblige.—**M. N. SMITH.**

3927. Photographic Trip to Channel Islands (Sark).—Going early in July from London. Would like to meet with someone desirous of covering same ground—fourteen or twenty-one days.—**C. E. FORBES.** (Address with Editor.)

3928. Dark-Room at Fleetwood.—Can anyone tell me if there is any professional or amateur who allows his dark-room for changing plates at Fleetwood?—**LANCASTRIAN.**

3929. Hawarden Park.—Can anyone tell me if Hawarden Park, Cheshire, is open every day to the general public, and is there any restriction to photograph the castle, and in its grounds?—**GLADSTONIAN.**

QUERIES UNANSWERED.

- Mar. 7th.**—Nos. 3528, 3551, 3554, 3556.
21st.—Nos. 3585, 3587, 3593, 3595, 3596, 3612, 3614.
28th.—Nos. 3634, 3636, 3640, 3643, 3653.
April 4th.—Nos. 3661, 3664, 3674, 3677.
11th.—No. 3694.
18th.—No. 3718.
25th.—Nos. 3727, 3731, 3735, 3736, 3742, 3744, 3747.
May 2nd.—Nos. 3758, 3767.
9th.—No. 3795.
16th.—Nos. 3808, 3820, 3822, 3824, 3826.
23rd.—Nos. 3827, 3828, 3829, 3834, 3839, 3840, 3841, 3843.
30th.—Nos. 3857, 3858, 3860, 3862, 3865.
June 6th.—Nos. 3878, 3883, 3884.
13th.—Nos. 3885, 3886, 3890, 3894, 3895, 3896, 3899, 3901, 3909, 3910, 3911.

ANSWERS.

3703. Hand-Camera.—Your quarter-plate Instatograph could be used as a hand-camera by simply fitting it in a suitable case, and the plates would be worked in the usual double backs, the number of which need be limited only by the space at your disposal, and the weight you cared to carry. The Thornton-Pickard shutter would be as good as any for the work; but I am afraid that your lens is of too long focus to give good results.—**THE SMITH.**

3793. Blue Prints.—Try an increased quantity of the ammonia ferric citrate.—**THE SMITH.**

3805. Whole-Plate Lens.—Yes; with a small stop.—**THE SMITH.**

3814. Stereoscopic Effect.—A letter on page 371 will probably answer this query.—**THE SMITH.**

3823. Eikonogen.—I used eikonogen some time ago, but the results I obtained were in most cases not equal to pyro. The formula I used is published by Marion and Co., and is given in answer to 3859. No doubt the capabilities of the developer will be greatly improved in time.—**SUNLIGHT.**

3842. Toning Baths, Aristotype.—I have obtained good results by both baths; but separate baths are generally recommended. The combined bath keeps very well.—**SUNLIGHT.**

3845. Hand-Camera.—I recommend one of Abraham's cameras—either the Challenge, Ideal, or Victor. I have a Challenge camera, and three of my friends have Ideals, and we are all perfectly satisfied with them. The far distance comes out fairly sharp. Portraits and interiors can, of course, be taken with a fixed-focus lens; but it is hardly the thing for portraiture. When you have practised a good deal I daresay you will be able to turn out negatives which will stand enlarging up to 12 by 10. You ought to have no difficulty in removing Aristo prints from glass if you clean the glass beforehand properly.—**SUNLIGHT.**

3852. Hydroquinone is soluble only to the extent of about 20 grains to the ounce of water at ordinary temperature, so a 10 per cent. solution is not practicable. To use the pot. brom. for over-exposure, make up a 10 per cent. solution, and add from 5 to 30 minims, according to your need; but it is impossible to lay down a rule as to quantity. You may dilute your developer with $\frac{1}{2}$ to $\frac{1}{4}$ of water for slow development.—**THE SMITH.**

3854. Shutter for Hand-Camera.—If "Inquisitive" will write me (care of Editor), I shall be glad to help him.—**THE SMITH.**

3866. Aristotype Paper.—From 8 to 12 grains, according to character of prints and tone required.—**THE SMITH.**

3870. Toning Bath.—

Chloride gold	...	...	...	15 grs.
Template soda	...	...	...	300 "
Distilled water (212 degs. Fahr.)	...	...	...	15 ozs.

Use when cooled. Keeps fairly well.—**SUNLIGHT.**

3872. Shutter.—From $\frac{1}{2}$ to $\frac{1}{4}$, approximately in the small size. Have not used the plates you mention in hand-camera, but can speak highly of Edwards' Isochromatic, Page's 50-times, and Thomas' thickly-coated rapid.—**THE SMITH.**

3887. Rapid Doublet.—I do not possess one of the lenses mentioned, but suppose that the combinations would be symmetrical, in which case the focus of the back lens alone would be about double that of the combination. The stop $f/8$ would then become $f/16$, and exposure would be quadrupled.—**THE SMITH.**

3887. Rapid Doublet.—The use of the back combination alone will, of course, increase the time of exposure, as the focus will be about double that of the lens used as a doublet. Thus, in your case, where you intend to use same stop, etc., and find that one second is the correct exposure for the doublet, four seconds will be required for the single lens.—**J. B. STEPHEN.**

3888. Developing Detective Plates.—It looks very much like the lens being partially covered during exposure. Does the shutter completely uncover the lens during exposure, or is there something amiss inside? Perhaps your plate is not entirely covered during development.—**J. B. STEPHEN.**

3888. Developing Detective Plates.—The fault is not in development, but in focussing. If your lens be slightly nearer the plate than the equivalent focus, all your picture will be indistinct except the immediate foreground, the light from which will fall on a part of the plate furthest from the optical centre of the lens. Try a few plates with a little longer focus, and make sure that the axis of the lens is at right angles to and in centre of the plate.—**THE SMITH.**

3888. Developing Detective Plates.—Quinol spreads very rapidly, and it may be that; or your developer is too strong. You would do better to use the pyro formula of Mr. Lange's, which is:—

Washing soda	...	...	...	2 ozs.
Boiled water	...	...	...	16 "
Brom. ammon.	...	...	...	20 grs.

Take $\frac{1}{2}$ oz. of above, and make up to 2 ozs. with water, and add 3 to 5 grs. of dry pyro.—**ERKO.**

3889. Eikonogen.—Yes; you can use it in one solution. The best form, in fact. Try Warnerke's

Sulphite soda	...	...	40 parts.
Distilled boiling water	...	...	200 "
Eikonogen	...	...	20 "
Caustic potash	...	...	20 "

1 to 3 parts water for use. It goes (solution) dark, but does not detract from its developing powers.—**ERKO.**

3889. Eikonogen.—The following is a thoroughly good formula. It should not be used as a one-solution developer:—

A.	
Eikonogen	200 grs.
Sulphite of soda (recrystallised)	200 "
Dist. water, to make	20 ozs.

B.	
Carbonate of potass. (commercial)	2,400 grs.
Sulphite of soda (recrystallised)	1,000 "
Dist. water, to make	20 ozs.

C.	
Caustic potass	800 grs.
Sulphite of soda (recrystallised)	1,800 "
Dist. water, to make	20 ozs.

Three parts of A to one part of B.

In cases of under-exposure or for instantaneous pictures, use C instead of B. To correct over-exposure add a few drops of 10 per cent. sol. potass bromide. Fixing solution; Hypo. 1 lb., water

quart. Use hot water to mix A solution.—J. B. PAYNE.

3889. **Eikonogen.**—(1) To 4 parts sulphite soda and 1 part eikonogen, which are placed in either an earthenware or enamelled vessel, 10 parts of water are added, and the dissolution brought about by boiling and stirring. The hot solution is then poured into a flask containing 50 parts cold water. (2) 3 parts crystallised carbonate soda are dissolved in 20 parts cold water. Immediately before developing mix 3 parts No. 1 with 1 part No. 2. The one-solution formula works well, but I prefer the two-solution.—SUNLIGHT.

3891. **Bromide Emulsion.**—I generally use boiling water, scraping off old gelatine with a piece of glass, then clean them with whitening, and a final rub with a clean leather. With regard to coating, you must have a levelled surface of some description on which the plate must be put to set. I find a slab of marble excellent for this purpose. Be sure it is quite level, or uneven coating will be the result. I always measure the emulsion, about 1 dr. to the quarter-plate. Melt by placing bottle in water at about 70 or 80 degs. Fahrenheit, and spread emulsion over plate with a glass rod.—J. B. STEPHEN.

3892. Payne's Formula.—

No. 1.			
Hydroquinone	...	...	4 grs.
Meta-bisulphite potash	...	...	4 "
Bromide potash	...	...	1 gr.
Distilled water	...	...	1 oz.

No. 2.			
Potassium hydrate (sticks)	...	...	10 grs.
Distilled water	...	...	1 oz.

Use equal parts of 1 and 2.—J. B. PAYNE.

3892. Payne's Formula of Hydroquinone Developer.—

A.			
Hydroquinone	...	...	40 grs.
Meta-bisulphite of potash	...	...	40 "
Potassium bromide	...	...	10 "
Distilled water	...	...	10 ozs.

B.			
Potassium hydrate	...	...	100 grs.
Distilled water	...	...	10 ozs.

To develop, use equal parts of A and B. By J. B. Payne. See AMATEUR PHOTOGRAPHER, October 19th, 1888, page 248.—J. RAWLINS.

3893. **Adapter.**—A flat brass ring with internal and external threads by means of which a lens may be carried in a flange otherwise too large for it.—THE SMITH.

3897. **Whole-Plate Lens.**—If you do not wish to pay a high price for a lens, buy Taylor, Taylor, and Hobson's rapid view lens, and you will not regret it. The slight distortion given by a good single lens will not be noticeable in one negative out of twenty, unless you go in for architecture to a considerable extent.—THE SMITH.

3897. **Whole-Plate Lens.**—Cannot do better than either Wray or Taylor.—EIKO.

3898. **Eikonogen.**—Does not stain like pyro, and can be used for bromide paper; otherwise has no other advantage.—EIKO.

3898. **Eikonogen.**—See answers to 3823 and 3389. Most of my experiments were made with Ilford ordinary plates.—SUNLIGHT.

3900. **Most Rapid Lens.**—Both are practically the same; f/8 is f/8 equally on any lens.—EIKO.

3900. **Most Rapid Lens.**—Practically they are of equal rapidity, as the difference in the amount of light lost by passing through two combinations in the doublet as against one in the single lens is so small as to be of no real importance.—THE SMITH.

3902. **Stops.**—To find this out, ascertain what is the focal value of your lens, and divide aperture of stops into it, which will give f/3, f/16, or whatever it works out. For (1) third stop, (2 and 3) fourth stop.—EIKO.

3903. **Dark Slides.**—Tylar's slides are dearer, but more reliable than wooden ones.—EIKO.

3904. **Gloss.**—Squeegee wet prints on to an enamelled plate, such as can be got from Abraham's, 81, Aldersgate Street, or Tylar's.—EIKO.

3904. **Gloss.**—If you use albumenised paper a burnisher is the thing.—SUNLIGHT.

3905. **Sky.**—Do you cover up your diaphragm slot and dark slide when exposing? Possibly your slides let in light.—EIKO.

3905. **Sky.**—There is probably some light reflecting surface inside either the camera or dark slide. See that everything, from the lens's hood to the screen behind the plate, is a dead black. I suppose your camera and slides are perfectly light-tight.—THE SMITH.

3906. **Burnham, Somerset.**—Reply is given under "Holiday Resorts" in present number.—T. BAKER.

3907. **Lens, Objective only.**—If a Lancaster lens will answer your purpose, you can obtain either the Merveilleux or Instantograph unmounted. The prices are 3s. and 12s. 6d.—THE SMITH.

3907. **Lens, Objective Only.**—Lancaster supplies unmounted lenses, such as you require, for 3s. The one I got works splendidly in a camera I have made. It requires a fixed stop of about $\frac{1}{8}$ in., and will work at about f/13.—J. B. STEPHEN.

3908. **Eikonogen.**—See answer to 3889.—EIKO.

3908. **Eikonogen.**—See answer to 3889.—SUNLIGHT.

EDITORIAL.

NOTE.—Anyone requiring an opinion upon photographic apparatus, plates, etc., must give a number or initial for identification, as in no case will makers' names be inserted in this column.

SPECIAL NOTICE.—We are very pleased to find that replies in this column are so much appreciated, but we should be very grateful if those requiring advice would send their letters to us BEFORE TUESDAY MORNING'S post if possible. The time occupied in replying in this column is very considerable, and owing to the often late receipt of letters, many matters have to be left over each week. This we much regret.—ED:AM:PHOT:

R. A. R. BENNETT.—Thanks for your kindness in sending in the letter. We shall not open up the question again. Do you wish the letter returned?

F. W. ROTHWELL.—Thank you for the suggestion, but we could not afford to illustrate "Holiday Resorts," etc.

R. L.—You should have seen that the glass was perfectly clean, and polished the face of it with French chalk, then your print would have stripped off without difficulty.

EDWIN SMITH.—We see no reason why 3874 should not be answered, and have not time to look up the others, although you may be correct in your suggestion.

A. B. SWIFT.—In what competition did you send your prints?

X. Y. Z.—The whole subject will be dealt with early in July.

INDIA RUBBER.—Messrs. Stevens and Haynes, 13, Bell Yard, Temple Bar, E.C., published at 2s. 6d.

R. L.—Annually.

R. P. S.—We should have every confidence in advising you to buy the R.E. No. 1, but are not quite certain whether it is made with Iris diaphragm. Really your concluding paragraph is too flattering.

G. NICHOLSON.—The difficulty, of course, is in getting pure flour paste. We should never recommend the use of it, because of the acid action which sets up.

ROBERT SMITH.—The photographs are really very fair, but we have not sufficient knowledge of the commercial side of the business to fix their "worth per dozen."

E. L. MACCOLSFIELD.—The 7 by 5 size is very useful, and you will do well to have a lens covering a whole plate. If you can afford it, by all means have 1 or 2. 3 is a good lens, and works at f/8, and is suitable for portraits, landscapes, and, in fact, is a first-class all-round lens. 4 and 5 are both good lenses. 6 is the last out of the lot we should select. You will do your work best with an R.R.

SACUL.—Yes; but the figure or figures should compose the picture, and the landscape be subservient to it or them.

M. CARR.—1. We have found plate makers quite willing to sell us a few plate boxes. 2. We cannot give you the name of a paper, but if you search the "Dailies" for the week ended February 15th of this year, you will find what you require.

D. J. LEWIS.—We will try and obtain the information for you, and send on.

PONS ROMANO.—Use the developer recommended by the makers, but increase the restrainer and clear thoroughly. As your object should be to get a hard negative with black and white contrast, we should advise your using hydroquinone.

G. J. MOORE.—We know of no book upon ferro-types, but have no doubt Mr. Fallowfield could give you all the particulars that you need.

J. W. CARPENTER.—We have not worked with the lens, but have heard that it covers well, and gives good definition.

TRAMP.—In answer to No. 1 we can only say that the camera shown to us, and which we noticed, left nothing to be desired in the matter of finish and rigidity. No. 2 you should be able to; both lens and shutter would, if genuine, bear the name of maker. If traders are dishonest enough to insert inferior lenses into known makers' mounts, it is extremely difficult to detect them.

G. H. S. (Burnley).—Your negative is under-exposed, and the print has been toned in a bath weak in gold; the paper has dirty stains, which are not at all to be excused. Increase your exposure according to the time of day, and see that you have a diffused light to work in, and develop slowly.

D. S. WHITELAW.—(1) We should advise A. (2) Quite to be relied upon. (3) C is certainly not equal to D. (4) By all means D, which works at f/8, and will answer your purpose admirably.

M. B.—The camera is considered to be one of the best in the market, and certainly possesses some excellent features. The 10 by 8 lens would, of course, cover sharply when using a larger stop than the 8 by 6, but for all-round work the latter would be the better one of the two for a whole-plate camera.

IRWIN.—B is one that gives general satisfaction. A CONSTANT READER OF THE AMATEUR PHOTOGRAPHER.—(1) A single landscape lens. (2) The equivalent focus of the lens for the purpose men-

tioned should be as long as the extension of the camera will permit. (3) Yes. (4) Narrow angles. The W.A. lens is of short focal length. The distant detail can only be increased in size by increasing the focal length of the lens. Get a long-extending camera and a single view lens.

C. C. VEYERS.—Received too late for this week. BRUCE.—Buy No. 2 or 3. One is as easy as the other.

R. J. B.—The shutter you write about is well made, quick, and under full control.

F. R.—We can confidently recommend A, B, C, and F, preferably A and B.

LUX.—Camera No. 3 or 4. Lens, 2 or 3. Shutter, 1, 3, or 4. At present you will hardly require a burnisher. No. 1 is a good machine.

G. J. JONES.—Clean with oil and the very finest flour of emery. It may be necessary to have the steel burnished, in which case you must send to the maker.

S. J. L.—Damp plates are useless.

J. R. R.—We place them in the following order: 3, 1, 4. No. 2 is not of any use for good work. No. 5 has some good points.

H. H. SUMMER.—We cannot speak positively, but believe the firm have ceased manufacturing.

H. L. HUDSON.—The book in question is not published by our firm.

PIUS.—It is possible to copy daguerreotypes. See Wall's "Dictionary of Photography." The cleaning is a very delicate operation.

E. G. DRAPER.—We do not care to push the matter any further.

MISS ROSE WOOD.—The photographs will be on view at Creed Lane next week.

T. GARDNER.—We insert your letter, and think well of the scheme.

Monthly Competition.

No. 13.

LANDSCAPE OR SEASCAPE.

Title of Picture.	Name of Sender.
Land's End, Cornwall...	P. Heriot.
On the Blyth	S. H. Barton.
Bramcombe Chine	G. W. B. Waters.
Solitude	J. Orton.
Sokla	...
Off Ramsgate Pier	W. Avalon.
The Fath by the Willows	J. W. W. Young.
A Rough Day	A. R. Dresser.
On the Brent near Hendon	Capt. E. J. Fielden.
In Dungleas Dean	A. Pitkethley.
Streatley Mill on the Thames	E. B. Wain.
Hoisting Sail	G. W. Blackwell.
On the Boro, co. Wexford	F. K. Pounder.
England's Wooden Walls and Ancient Mariners	W. W. Fry.
Frengail Wood	Rev. G. E. Hermon.
Calm Evening, Leixlip, co. Dublin	R. S. Tresilian.
River Wandle, Beddington Park, Surrey	E. F. Blow.
View on the River Doon	A. Thomson.
Town and Lake of Thun, Switzerland	C. V. Shadbolt.
Meeting of the Waters, Bolton Woods	J. Shaw.
The Gelt, Brampton	D. Macadam.
The Erith	S. Snelgrave.
The River Brent at Finchley	J. H. Thornton.
Trawlers, Brixham Harbour	A. C. Taylor.
At the Three Sisters, Niagara Rapids	T. Langton.
Wimbledon Park Lake	J. C. Dawson.
Hanwell Viaduct	W. Abbott.
Padstow Harbour	E. Griffiths.
Chadkirk, Romiley, near Manchester	R. Cash.
Low Water on the Medway	G. J. Wightman.
Gill Beck, Wharfedale	H. G. Brierley.
Spring Time	Mrs. H. G. Brierley.
A Peep in Bolton Woods	W. H. Scott.
One of the Reaches of the Severn	A. W. Gottlieb.
The Trout Stream, Brokenhurst Park, Hants	A. T. Newton.
On the Blackwater	A. J. Jeffreys.
View on the Rother, near Midhurst	Rev. A. H. Thorold.
Newton-on-Ouse	M.A.
A Cottage Home	H. Bateman.
H.M. Troopship "Orontes"	W. Rawlings.
Thames Valley, near Wargrave	H. H. Hammond.
Swilla Bottom, Ingleton	J. Harriman.
View of Jesmond Dene	J. H. Brown.
Listening to the Cuckoo's First Notes	G. L. Snowball.
Quarrymen at Work	J. Drew.
View in the Park	Miss Hand.
Bridge over Usk, Crickhowel	C. Brittain.
Beechwood, Cookham Dean	H. L. Hudson.
Refresh and Pay; or, Travel On	W. Hills.
After a Snowy Night, Murren	J. Tims.
An Old Sussex Mill	Emile Knoch.
Kosehall from the Bridge	A. H. Webling.
Chatsworth	D. B. Jack.
	A. T. Bucknall.

In Bolton Woods, Yorks	...	S. G. Stockwell.
Tansey Cottage	...	Mrs. Brookholes.
Shurdlond Lane	...	Miss Madge L. Ibbetson.
Sychan Pass	...	N. K. Brook.
Stepping Stones	...	A. C. Batty.
View of Hampton Church	...	G. H. Wyatt.
View in Alnwick Park	...	W. Smith.
A Thames Barge	...	H. J. Hicks.
Cottingham Bridge	...	S. Wilkinson.
King Frost	...	J. Franklin.
Coldham Ferry	...	G. T. Banks.
At Stratford-on-Avon	...	A. J. Leeson.
A Place for Reflection	...	J. Smith, jun.
Outward Bound	...	J. T. Ricketts.
On the Goyt, near Buxton	...	J. R. Taylor.
View on the Lynher, Cornwall	...	W. Wise.
The Silent River	...	H. Martin.
Early Morning in Whiteley Woods	...	G. H. Westlake.
View near Stone	...	H. Leach.
A Country Lane	...	W. H. Trigg.
Saltwell Dene	...	T. Douglass.
In the Lledyr Valley	...	T. W. Evans.
Evening Shadows	...	E. Beck.
Blue Bridge, York	...	Corporal W. Froud.
Sherrington	...	Miss Ruth Ibbetson.
A Quiet Corner	...	J. M. Keogh.
On the South Tyne	...	W. R. Spiers.
Lowestoft Beach and Pier	...	W. Clark.
On the Derwent, North Durham	...	J. Kirkwood.
The Lauterbrunnen Valley	...	Rev. Miles Barnes.
Evening on the River Colne, Herts	...	F. de Paula.
The Lower Strid near Bolton Abbey	...	R. T. Houseman.
The Strid	...	J. Atkinson.
Our Favourite Walk	...	E. J. Dawson.
A March Morning	...	George Brown.

Travelling Studentship, 1890.

ENTRIES in the above competition have been received from the following ladies and gentlemen:—

Fred. Mackenzie	...	Glasgow.
J. E. Heath	...	Cardiff.
H. J. Martin	...	Tollington Park, N.
Alfred Stieglitz	...	Vienna.
A. M. Morrison	...	Glasgow.
A. D. Guthrie	...	Leith.
J. F. Kelly	...	Peckham Rye, S.E.
H. S. Smith	...	Bradford.
A. R. Dresser	...	Bexley, Kent.
G. F. Zimmer	...	Anerley, S.E.
A. Machacek	...	Budapest.
Rev. W. Mann	...	Bristol.
J. O. Burry	...	Wrexham.
E. A. White	...	Wolverhampton.
Cyril S. Cobb	...	Hughenden, Surrey.
Rev. James Drew	...	Chipping Sodbury.
W. T. Goodhew	...	Finsbury Park, N.
W. L. Spence	...	Manchester.
Robert Murray	...	Plymouth.
Rev. J. M. Mello	...	Derby.
M. de Dèchy	...	Odessa.
Bernard Alfieri	...	Cricklewood, N.W.
George Brown	...	Walworth, S.E.
B. Bullen	...	Norwich.
L. W. Darra Mair	...	Nottingham.
W. J. Young	...	Lewes.
Evan Griffiths	...	St. Columb.
A. E. Forbes	...	Camden Sq., N.W.
A. C. Pemberton	...	Mincing Lane, E.C.
J. W. Green	...	Leamington.
M. J. Harding	...	Shrewsbury.
W. J. Evans	...	Wolverhampton.
G. A. Brown	...	Leiston, Suffolk.
S. F. Clarke, L.D.S.	...	Louth, Lincolnshire.
J. A. Hodges	...	Chancery Lane, W.C.
G. Hemming	...	Abingdon.
H. Goodwillie	...	Dublin.
W. I. Thomas	...	Chancery Lane, W.C.
Capt. C. J. Fielden	...	Maida Vale, W.
J. H. Scaife	...	Hendon, N.W.
W. D. Barber	...	New Cross, S.E.
C. R. Tate	...	York.
J. A. King	...	Holloway, N.
C. V. Shadbolt	...	Chislehurst.
W. J. Hawes	...	Kingsland, N.
T. L. Buck	...	Ravenstoneale, Westmoreland.
Henry Thompson	...	Harrogate.
A. H. Kinsey	...	Darlington.
J. T. Griffin	...	Chingford.
M. W. Thompstone	...	Brooklands, near Manchester.
L. Rosher Mortex	...	Lausanne.
J. F. Banks	...	Norwich.
D. Macadam	...	Haltwhistle.
J. M. Keogh	...	Dublin.
J. Galbraith	...	Walworth, S.E.
Alex. Keighley	...	Keighley.
J. Bentley	...	Hanley.

Sale and Exchange.

RULES.—Fourpence for twelve words or less, and a penny for every additional three words, must be enclosed with each advertisement, together with the name and address of the sender, which must be paid for, and sent to Hazell, Watson, and Viney, Ltd., 1, Creed Lane, Ludgate Hill. Halfpenny Stamps preferred. A single figure, or group of figures undivided by letter, space, stop, or words, counts as one word; compound words count as two words.

REPORTING UPON APPARATUS.—The Editor of the AMATEUR PHOTOGRAPHER will be pleased to report, to any intending purchaser, upon apparatus, etc., offered for sale in the "Sale and Exchange" column, provided such apparatus, etc., is forwarded by the seller to him to the offices of the AMATEUR PHOTOGRAPHER, 1, CREED LANE, LUDGATE HILL, LONDON, E.C., free of charge. The intending BUYER to pay a fee equivalent to a commission of 2½ per cent., the minimum being one shilling, upon the sale price of the apparatus, etc. The publishers will undertake the packing and sending of all goods at the cost of the SELLER. As far as possible, the Editor will undertake to send a report within TWO DAYS of receipt of goods.

DEPOSITS.

Deposits for goods to be forwarded on approval may be made with our Publishers, who will hold the amounts deposited until they are satisfied that the transaction has been executed to the satisfaction of both parties. Cheques and Post Office Orders should be made payable to Hazell, Watson, and Viney, Ltd. A nominal charge of 1s. is made whether a sale is effected or not.

Advertisements can be inserted under a number, the name and address being registered, and letters forwarded for a fee of 6d. to cover postage.

N.B.—Trade Advertisements cannot, under any circumstances, be inserted in this column. Such advertisements can be inserted elsewhere at the Trade Scale, which may be obtained on application to Parry and Crawford, 1, Creed Lane, Ludgate Hill, London, E.C.

"Amateur Photographer."—AMATEUR PHOTOGRAPHER, November 30th, 1888, to December 27th, 1889, including Prize Tour Number (December 14th, 1888, missing), all quite clean; 4s. — Irwin, Photographic Chemist, etc., North Shields.

"Amateur Photographer," etc.—AMATEUR PHOTOGRAPHER, vols. v., vi., vii., viii., ix., x., and vol. xi. up to date, also first 9 numbers PHOTOGRAPHIC SOCIETIES' REPORTER; lot 153.—T. Schröder, 7, Bilston Road, Wednesbury.

AMATEUR PHOTOGRAPHER, vols. vii., viii., containing Wall's "Dictionary," offers or exchange.—H. 92, Regina Road, Tollington Park, N.

Apparatus.—Camera case, waterproof, stiff leather bound, 8s. 6d.; solid leather, 14s. 6d.; good locks, straps; approval; 6 stamps. — 1, Hermitage Mews, Stamford Hill, N.

Camera, lens, and stand, complete, half-plate Tourist camera, with double extension and dark slide, in good condition; cost £8; price 55s.—C. D. J., 59, Albert Hall Mansions, S.W.

Half-plate square Tourist camera, with 3 double backs and Eastman's roll-holder, 33 unused exposures, Swift's 14 in. landscape lens, with iris diaphragm, Thornton's shutter for time and instantaneous, in good condition.—Address, Batty, or can be seen at the office of the AMATEUR PHOTOGRAPHER, 1, Creed Lane, London, E.C.

Four large cells, carbon and zinc plates, suitable for dark-room electric light, 7s. 6d. per cell; pneumatic Phantom shutter, perfect, fit hood up to 2½, 18s. 6d.; developing lamp, with plate holder, lamp, etc., 15s. 6d.—Medicus, Bath Lodge, Reading.

Cameras.—Optimus Magazine camera, cost seven guineas, new; £8.—17, Sedan Street, Walworth.

Cameras, etc.—Studio camera, with excellent lens and studio stand, complete, by Meagher; no reasonable offer refused. — Lawrence, 64, Cottage Grove, Stockwell, S.W.

New half-plate mahogany camera, three double slides, double extension, swing-back; 60s.—Sunderland, Smethwick.

Lancaster's Instanto quarter-plate, complete, in knapsack, Eclipse changing bag, and two printing frames; 30s. the lot, in good condition.—Wood, 26, Clarke Street, Shelton, Stoke-on-Trent.

Camera, Lens, etc.—Square half-plate Bilcliff camera (double extension), and three slides, very light and compact, £3 15s.; three slides, Turnbull's patent, used once, 18s.; Darlot's rapid lens, £2 10s.; Kershaw shutter, 14s.; all in best condition. — J. Higson, 9, Crescent, Salford.

Optimus Euryscope, 10 by 8, £7; Underwood's 12 by 10 Instanto camera, one double slide, three carriers, £5 10s., all new, approval, deposit; 7 by 6 Meagher's Kinnear bellows camera, three double and one single slides, with 16 carriers, with lock-up polished box and strap to hold the lot, good as new; approval; deposit; giving up photography.—Webster, 91, Layerthorpe, York.

Camera Case.—For sale, whole-plate leather camera case; cost 42s.; offers.—Sinclair, 139, Cannon Street, London.

Changing Box.—Wanted to change, Lancaster's

half-plate 3½. 61. changing box, splendid condition, for good landscape lens or Tylar's slides and diffuser.—Williams, Windsor Road, Levenshulme.

Dark-Slides, etc.—Eight Vergara half-plate Spanish mahogany double dark-slides, for films, very light, 4s. 6d. each, or 32s. the lot; good half-plate tripod, 7s. 6d.—Dollery, 57, Charing Cross, S.W.

Two quarter-plate double dark-slides, three quarter-plate Lancaster's metal slides, with adapter, De-coudun's photometer, all in good condition.—What cash offers to A. Miller, 25, Listria Park, Stoke Newington, N.

Enlarging Lantern.—Enlarging lantern, complete, with lens, lamp, etc. — Apply, Lewin, jun., Castlegrove, Tuam, Galway.

Enlarging Lantern and Lens.—Enlarging lantern, 6 in. condensers, half-plate portrait lens, new condition; £1 4s.—T. Bradwell, Congleton.

Hand-Cameras.—Kodak detective camera, equal new, cost 105s.; price 55s.; exchange with little cash for Ross' or Dallmeyer's half-plate R.R. — Bygrave, 15, Canterbury Road, Brixton, S.W.

Fallowfield's Facile detective camera, £3; wanted, good half-plate set; offers.—Körmöczy, 103, Grafton Street, Mile End, E.

Hand-Cameras, etc.—Optimus hand-camera, 5 by 4 R.R. lens, six double backs, to hold 12 quarter-plates or films, the shutter works at any speed up to 1/10 of a second; can be used on a tripod for time exposures; in perfect condition; price £5; originally cost £7 11s. 6d.—To be seen at Brownings', 63, Strand, W.C.

Eureka detective, Rouch's, morocco covered, for 12 quarter-plates, nearly new, perfect condition; £5.—31, Glenasm Road, Clapton, N.E.

Abraham's Ideal hand-camera for sale, immediately, in good order, perfectly new a month ago; offers.—Hy. Thompson, Grosvenor Terraces, Harrogate.

Home-made quarter-plate hand-camera, change 12 plates inside automatically, view lens, and shutter; price 21s., or exchange violin. — Baker, 14, Cedar Road, Leicester.

Hockin's quarter-plate hand-camera, for films; 25s.; or exchange Lancaster's 1889 quarter-plate Instantograph, three slides, no lens. — W. Powell, 3, Tintern Street, Brixton, S.W.

Abraham's Ideal hand-camera, very little used, excellent condition, good as new; cost £5 3s. 6d. last April; will sell for £4 3s. 6d.; approval; deposit.—Miss L. Ridley, Hollington, Newbury.

The Dot, measures 2½ by 3½ by 5½ ins., fitted with rapid rectilinear lens and view finder, 12 exposures, always in focus; 24s. nett. — Barnes, 86, Salcott Road, Clapham Junction.

House to Let.—Ilfracombe. Furnished house to let, for July, August, and September, or shorter time. Two sitting and four bedrooms, and small fitted dark-room. Servant left if required. — Cecil Wood, Ilfracombe.

Lenses.—For sale, a 5 by 4 Optimus extra-rapid Euryscope, quite new, never been used; cost £3 3s.; will take 45s. — S., 22, Chetwynd Road, London, N.W.

Beck's whole-plate wide-angle rectilinear lens, 5 in. focus; £2 15s.; cost £3 19s. — 33, Victoria Street, Sheffield.

Splendid 5 by 4 R.R. lens, detachable hood, stop, does good work on quarter-plate; 23s.—Coulthurst, Collyhurst Street, Manchester.

Marion's half-plate R.R. lens; offers over 30s.; cost double.—Taylor, Tannery, Marple.

Dallmeyer's 1A wide-angle rectilinear lens; list price £4 10s.; price £2 5s. — J. Charles Lang, Liskeard.

For sale, half-plate rapid doublet lens; 15s. 6d.; or exchange with cash for whole-plate Instantograph or similar lens. — Address, J. Kirkpatrick, Helysburg, N.B.

Fine 7 by 5 rapid rectilinear lens, with Waterhouse diaphragms, new, 35s.; half view lens, Waterhouse diaphragms, works f/8, 10s.—McComas, 5, Laurence Pointney Lane, City.

Grubb's applanatic cabinet portrait lens; cost 90s.; accept 45s.; approval. — Hindley, Market Square, Nelson, Lancashire.

Optimus 7 by 5 rapid rectilinear lens, quite new; price 37s. 6d. — H. Slinger, 1, Nelson Street, Lancaster.

Hinton's rapid landscape lens, 10 by 8, 14 in. focus, conical mount, little used; cost 30s.; take 20s.—Webster, 27, King William Street, Blackburn.

Lenses, etc.—Landscape lens, 9 by 7 (by A. Ross, London), also large mahogany box camera, with two slides and carriers, all in good condition; £1. — R. Cash, Stevenson Road, Ipswich.

Wray's 10 by 8 view lens, Waterhouse diaphragms, 50s.; Wray's 5 by 4 R.R. rigid settings, Waterhouse diaphragms, 35s.; Mayfield's 8 by 5 R.R., Waterhouse diaphragms, 45s.; Lancaster's half-plate Instantograph, without shutter, 17s. 6d., or, if offered sharp, £6 the lot; cost £11 17s. 6d. — B. Ewen, Chiswick Nursery, W.

Lens and Shutter.—Optimus Euryscope, 7 by 5, with time and instantaneous shutter, also pneumatic drop; what offers? — Howard, 16, Perryn Road, Acton.

Lens and Tripod.—Half-plate R.R. lens, cost £2, sell 25s.; also Lancaster's Universal stand, half-plate size, cost 15s., 8s. 6d.; approval.—T. C. Hosking, 33, Paulet Road, Camberwell.

Negatives.—Negatives, 10 negatives, country scenes, 7½ by 5; 20s.—Jones, Wheelgate, Malton.

"Photo. Soc. Reporter."—PHOTOGRAPHIC SOCIETIES' REPORTER, numbers 1 to 12, perfectly clean; what offers?—H. White, Pembroke Dock.

Photometer, etc.—Decoudun's photometer, re-touching desk, view finder, Stirn's detective camera; what offers?—Address, Wm. Bell, Northallerton.

Print Washer.—Jefferies' whole-plate print and plate washer, excellent condition; 11s. 6d. — Bygrave 15, Canterbury Road, Brixton, S.W.

Sets.—What offers for Lancaster's special patent quarter-plate camera, rapid Rectigraph lens, three double dark slides, shutter, tripod? cost £7.—E. Mayhew, 36, Castle Road, Kentish Town, London.

Cameras with lens and stands complete; Lancaster's half-plate Instantograph, splendid lens, with two double backs (one defective), £2 15s.; and quarter-plate International, three D.B.s, £2 2s.—Buchan, 90, Cannon Street, E.C.

Underwood's quarter-plate Compactum set; cost 21s.; bargain, 12s. 6d.—H. Rowe, Wallbridge, Stroud.

Bargain. Complete set photographic apparatus, camera, chemicals, etc., for plates 4½ by 3½, quite new, with instructions, in lock-up travelling case, by Lawley, London, optician to Government; sell for 38s., net half cost.—N., 51, St. Paul's Road, Canonbury.

Lancaster's 1889 Instantograph, with lens, Iris diaphragm, instantaneous shutter, two double dark-slides, and tripod, complete, condition almost new; cash offers requested.—Sewell, Bookseller, etc., Barrow-in-Furness.

Lancaster's Meritire half-plate camera, lens, tripod legs, double dark-slide, and two extra metal ones, used one short season; 50s., complete.—Rhodes, Greenside, Kendal.

Quarter-plate set, all motions, three double backs; 35s.—Kérmöczy, 103, Grafton Street, Mile End, E.

Bargains. Dallmeyer's portrait lens, cost £15 15s., for £6 10s.; Ross' portrait, cost £11 10s., for £6 10s.; Grubb portrait, cost £8, for £4; quarter-plate camera, square (by Mayson), two slides, Spanish mahogany, cost £4 10s., for 30s.; 12 Tylar's double metal dark-slides, half-plate, cost £2 10s., for 21s. Wanted, whole-plate modern camera, or 10 by 8.—Warner Gothard, Wakefield.

Camera, bellows, 10 by 8, with four double backs, cone extension, tripod stand, inner frames, Ser-

geant's and Marshall's shutters, view finder, baize bags for dark-slides, and box for camera; to be sold a great bargain.—Apply at Stanley's, 13, Railway Approach, London Bridge S.E.

Lancaster's 1890 half-plate Instantograph, dark slide, tripod, and f/8 rapid rectilinear lens, quite new; cost 105s.; bargain, 73s.—E. Ernest, 2, Hawthorn Villas, Slad Road, Stroud.

Good quarter-plate mahogany box camera, stand, focus, and dark slide, in good condition; also lens, slightly damaged; cheap.—Apply, Holt, 9, Lansdowne Road, Clapham Road.

10 by 8 long extension camera (Spicer), carriers from quarter-plate, dark slide, and changing box, Ross' actinic doublet, tripod; 10 guineas; in first-class condition.—T. G. Mellors, 17, Newstead Grove, Nottingham.

Quarter-plate camera, lens, three double slides, stand, and case, by London Stereoscopic Company, quite new; cost £5, price £4.—Ronald Hogg, 17, Grosvenor Gardens.

Watson's 8½ by 6½ Premier camera, brass bound, with three double dark slides, in solid leather case, almost equal to new, fitted with No. 3 Premier lens in solid leather case, with quite new three-fold stand; cost £25 6s., price £18 10s.—To be seen at Messrs. W. Watson and Sons, 313, High Holborn.

Half-plate camera, rapid rectilinear and view lenses, focussing cloth, stand, printing fames, scales, books, trays, print washer, small screw press iron; 70s., giving up.—Apply for list, T. Schröder, 7, Bilston Road, Wednesbury.

Lancaster's quarter-plate Merveilleux set complete, waterproof case, all perfect condition, nearly new; 15s. the lot. Also two extra double dark slides, hardly used; 3s. each.—Rutter, Woodbines, Esher, Surrey.

Lancaster's half-plate Special camera, four double backs, three Tylar's, with adapter, in canvas bag, sliding tripod legs, all in excellent condition; price £4 10s.—Samuel Sidebotham, 7, Leonard Street, Oliver Street, Lower Openshaw.

Shutters, etc.—Phantom instantaneous shutter, fit any hood up to 2½ ins., with pneumatic release; cost 27s. 6d.; take 12s. 6d.—F. Sharpe, Grocer, Oakham.

Newman's time-instantaneous shutter; cost 31s. 6d. Mayfield's lantern-size pocket ebonite camera, three dark slides, shutter, working behind R.R. lens f/8. Offers.—F. C. S., 5, Royal Hill, Greenwich.

Silver Watch.—Exchange silver watch, new, cost £4 10s., and guard, for good hand-camera.—Arthur Harrop, Bury Street, Lancashire Hill, Stockport.

Stand.—Watson's best three-fold stand, catalogue No. 794, new, used but once; 17s.—A. Sprague, 35, Darnley Road, Hackney.

Sundries.—Phoenix shutter, Sargeant's patent shutter, box view-finder, ebonite view meter, circular level, Decoudun's photometer, 4 Eastman half-plate film-holders.—W., 43, St. James' Road, Kingston-on-Thames.

Tripod.—Watson's Cyclist tripod, used twice, faultless; 16s., deposit.—Atkinson, Cumberland Road, Leeds.

WANTED.

Camera.—Bruno's model or similar combination camera, complete, no extras; approval.—J. J. Arnott Macleod, 42, Argyle Place, Edinburgh.

Hand Cameras.—Facile, Ideal (not Kodak); exchange Sociable, cost £25, in splendid condition.—Butterworth, Glenthorne, Elmfield Road, Bromley, Kent.

Quarter-plate detective camera, cheap; approval.—Healey, 40, High Street, Bromley, Kent.

Hand-camera, quarter-plate, good exchange, or cheap.—Edwyn Tart, Marden Vicarage, Hereford.

Facile, good condition, rectilinear lens preferred.—C., Trefusis Villa, Watts' Avenue, Rochester.

Lenses.—Dallmeyer's wide-angle rectilinear lenses, No. 1A and No. 1, must be in perfect condition; state lowest cash price, etc.—C., Hornby Villa, Hoylake, Birkenhead.

Portrait lens, for quarter-plate camera; state lowest price and make.—S. Kirkham, Court Place, Carlisle.

Wanted immediately, Suter lens, B series, half-plate size; state lowest price.—Alpha, 51, Church Road, St. Leonards.

Roller Slides.—Two Eastman's quarter-plate roller slides; state lowest price and number.—Bing-ton, Old Trafford, Manchester.

Sets.—Whole-plate camera set; approval.—Apply, Pitcher, 155, Kingsland Road, London.

First-class quarter set, cash, or exchange hand-camera, cost 7 guineas; no rubbish.—17, Sedan Street, Walworth.

Quarter-plate set, complete.—State maker's name and full particulars to Playne, 62, Mervan Road, Brixton, S.W.

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PUBLISHING DEPARTMENT.—All letters containing Subscriptions, Orders, Remittances, SALE AND EXCHANGE Advertisements, or other business matters for the *Amateur Photographer* are to be addressed to the Publishers, HAZELL, WATSON, AND VINEY, LD., 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

NOTE.—SALE AND EXCHANGE Advertisements, at the charge of Three Words for One Penny, can be received as late as WEDNESDAY MORNING.

ADVERTISEMENT DEPARTMENT.—All communications respecting TRADE Advertisements in the *Amateur Photographer* are to be addressed to PARRY AND CRAWFORD, 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

NOTE.—Trade Advertisements are received up to Tuesday morning.

EDITORIAL DEPARTMENT.—All Literary Contributions, Queries and Answers, Photographs for Competition or Criticism, Books or Apparatus for Notice or Review are to be addressed to the Editor, *Amateur Photographer*, 1, Creed Lane, Ludgate Hill, London, E.C.

NOTE.—To ensure insertion, all Communications should reach the Editor on Tuesday.

CORRESPONDENCE SECTION.—Anyone wishing to communicate with Contributors can do so by forwarding such Communication in stamped envelope, under cover to the Editor, *Amateur Photographer*, 1, Creed Lane, Ludgate Hill, London, E.C.

"AMATEUR PHOTOGRAPHER" MONTHLY PHOTOGRAPHIC COMPETITIONS.

The Proprietors of the *AMATEUR PHOTOGRAPHER* offer, Monthly, two prize consisting of a

SILVER AND A BRONZE MEDAL (WITH RIBBON AND CLASP), for the best and second-best photographs sent in to each of their Monthly Competitions. The subject of the Competitions will be as follows:—

LANDSCAPE WITH FIGURE	July 14.
GENRE OR FIGURE STUDY	Aug. 14.
INSTANTANEOUS PHOTOGRAPHS, ANIMALS ETC.	Sept. 14.

Only one print is to be sent in; the negative of the prize pictures shall be at the service of the Proprietors, and all the prints sent in shall become the property of the Proprietors.

In addition to the Medals being given, the prize photographs may be produced in the *AMATEUR PHOTOGRAPHER*.

All photographs for any of the above competitions must be received by the

FOURTEENTH DAY OF THE MONTH,

and as received will be acknowledged in the columns of the *AMATEUR PHOTOGRAPHER*.

Competitive prints are available for exhibition before Photographic Societies after the 1st of each month.

Entry forms on receipt of stamped addressed envelope.

"AMATEUR PHOTOGRAPHER" MONTHLY COMPETITIVE PAPERS, 1890.

The following Prizes are offered for competition every month:—

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Three Prizes of 0 10 6 each.

And Three Certificates.

The Papers must not exceed 1,000 words; and those which are awarded Prizes will be published in the *AMATEUR PHOTOGRAPHER*; others will be selected, and will be arranged for publication in the

"AMATEUR PHOTOGRAPHER'S ANNUAL."

Contributions are to be upon the subjects as list given below; and in order to make the matter more interesting, it is requested that each competitor shall give his *personal experiences*. It is intended that each subject shall be written up by a specialist for the ANNUAL, and the latest information given. All MSS. must be received not later than the

28th OF EACH MONTH.

Subject.

28th June Plates and Films: their Development and After Treatment.

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On THURSDAY, JULY 3rd, at 12.30.

Entries should be made not later than one week prior to sale. Terms for selling and catalogues will be forwarded on application to the Auctioneers, 67 and 68, Cheapside, London, E.C. Telephone No. 1809.

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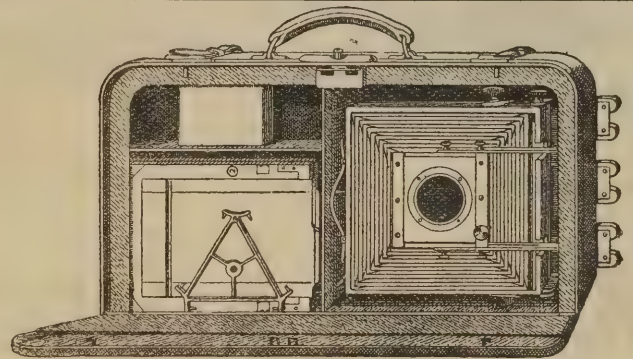
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This Bag is designed to take $\frac{1}{2}$ -Plate Camera, 3 Dark Slides, Box of Plates, Lens, Tripod Head, 3-fold Stand (inside or outside) and usual Photographer's requisites.

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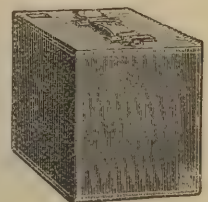
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PRICE: $\frac{1}{4}$ -plate Size, £7; 5 by 4 Size, £8.



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The British Journal of Photography says:—"It differs in many respects from any others of the same class hitherto introduced."

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Photography says:—"It strikes us as being very good."

The Camera says:—"This appears to be the most perfect Detective Camera which has yet been produced."



VOL. XI. No. 299.]

FRIDAY, JUNE 27, 1890.

[PRICE TWOPENCE.]

• OUR • VIEWS. •

To hold as 'twere the mirror up to nature."—*Shakespeare.*

WE have much pleasure in announcing that through the courtesy of the Editor of the *Lady's Pictorial* we shall next week reproduce the illustrated notice which he so kindly inserted descriptive of the AMATEUR PHOTOGRAPHER First Ladies' Competition. We shall add some technical description and criticism, and are sure that our readers will be exceedingly pleased with the work done by lady photographers. The photographs are on view at our offices, Creed Lane, from eleven o'clock till four, except on Saturday. They will remain on show all next week.

* * * *

A LETTER has appeared in regard to the formation of a photographic society for Camberwell, and we have received a letter from the Hon. Secretary of the Brixton and Clapham Camera Club pointing out the policy of the Camberwell men joining with Brixton. We entirely endorse this recommendation, provided the place of meeting is within anything like easy reach. It is certainly better that there should be one strong society; we therefore would cordially call the attention of the promoters of the Camberwell Society to Mr. Levett's letter. The Brixton and Clapham Camera Club have already done good work, and we are sure the Camberwell men will have no reason to regret joining forces.

* * * *

WE are unavoidably compelled to hold Mr. Valentine Blanchard's contribution upon the "Stereoscope" this week. We are pleased to note a growing interest in stereoscopic work, and shall again offer prizes for competition in the hope that a large number of workers will enter our competition.

* * * *

NEXT month we shall announce particulars of several competitions, some of a novel form, and others those which have so materially assisted to earn for the AMATEUR PHOTOGRAPHER the high position it occupies.

* * * *

WE had quite hoped to have settled upon the Judges for the "Travelling Studentship Competition," but our at-

tendance at Chester has prevented the work being done. We have also to excuse ourselves from not to-day publishing the awards in the "Monthly Competition" for the same reason.

* * * *

WE publish several letters on the question of "buyer and seller." Our desire is only to secure justice to both sides, and we know that at times the buyer is exceedingly troublesome and petty to the seller. We also know that sometimes, not often, we are happy to think, the buyer "filches" the seller. These are matters which we should be glad to hear more about, and hope manufacturers and dealers will not hesitate to write us.

* * * *

ON Monday evening the fifth annual Photographic Convention of the United Kingdom was opened at Chester by the Mayor. The Convention this year is under the able presidency of Mr. C. H. Bothamley, F.I.C., F.C.S.,. The attendance at the opening Conversazione was very large, and the President's address, which we publish in another column, was listened to with rapt attention. Mr. Bothamley's intimate knowledge of every branch of the science of photography, and his careful watching of the advances being made, his own researches and experiments all focussed together in the address, combined to make it one of the best ever delivered. It is rarely that one finds a man in photographic circles who can speak for nearly an hour without note or reference. Hardly a section of the photographic art was left untouched, and many of those who were present will carry away with them knowledge that may serve them in many ways. Mr. Bothamley's references to colour photography were not very hopeful, and we do not consider that he laid sufficient stress upon the advances that have been made in the application of photographic processes to book illustration. He trotted out the *Daily Graphic* as an example, but we think we are right in saying that but few, if any, of the pictures are direct reproductions from photographs. The photographer may have aided the artist, who, in most cases, plays sad havoc with the truthful photograph. He spoke

at some length upon the assistance photography is to the study of astronomy, and how much has been learnt by the work done by Professors Common, Roberts, and others. As a whole, the address will be read with the greatest interest, written in masterly language by a great worker and thinker, a man of great promise, and one who already ranks amongst the foremost in works of experiment and research.

The social arrangements included a concert and lantern show. Of the former we have nothing to say, and of the latter only that it opened with slides showing the members in attendance at the various meetings of the Convention since its formation, and views of the ordinary type. The hospitality extended by the Mayor was of a liberal kind, and the splendid rooms of the City buildings were "furnished well with guests." Upstairs there was an exhibition of apparatus. We think many amateurs would join the Convention, as members, if they knew the trouble annually taken to arrange a good programme. Certainly the programme of excursions could not be surpassed. Opportunity is afforded to see places which under other circumstances are almost inaccessible. We, therefore, hope that many will see their way to join, and so help the Convention to extend its field of usefulness. During the evenings of the week papers are read and discussed, and much useful knowledge is to be acquired. We hope, therefore, that many of our readers will send in their names and take part in next year's Convention.

* * * *

As promised, we give a very extended list of "Dark-Rooms." Those included in the hotel and Continental list are, of course, available without introduction. We believe that the list as a whole far exceeds in completeness any that has ever been compiled. It is our intention shortly to publish a small hand-book for touring photographers, and the list of Dark-rooms will be included as an appendix.

* * * *

In our advertising columns will be found the preliminary announcement of an Exhibition to be held in Edinburgh in November of this year, under the auspices of the Edinburgh Photographic Society. We shall hope shortly to receive a copy of the prospectus, and shall then have occasion to refer more fully to the prospects of the Exhibition.

* * * *

At a recent meeting of the Liverpool section of the Society of Chemical Industry the following papers were read: "Photo-chemical Investigations, and a new method of determination of the Sensitiveness of Photographic Plates," by Ferd. Hurter, Ph.D., and V. C. Driffield; "A New Actinometer," by Ed. Geo. Ballard, A.R.S.M. These papers are to be found in the Transactions of the Society, and will be of great interest to the student in photography.

* * * *

At the soirée of the Royal Society, Burlington House, Mr. Gambier Bolton, F.Z.S., read a paper on "Animal Photography," and exhibited about fifty slides from his series of animal and bird studies from life before a large and appreciative audience, including many of the leading naturalists of the day. Those who are present at the Conference at Chester this week will have an opportunity of seeing these slides, as we notice that Mr. Gambier Bolton's name is down for a paper on "Animal Photography," illustrated.

THE preliminaries for the Liverpool, 1891, Exhibition are progressing favourably, and already much space has been secured. Our opinion of the prospects of the Exhibition is well known. It is sought to make it of an international character, to which end the prospectuses have been printed in French and German. No effort will, we are sure, be wanting on the part of the executive to make the Exhibition the most successful that has ever been held in this country.

* * * *

In another column we publish an article on "Rambles," and shall be very pleased if it leads to a discussion upon the whole subject of photographic outings.

* * * *

It will be remembered that some time since we suggested the establishment of Dark-rooms in railway carriages in connection with some of the long-journey express trains. We have received the following letter from the Superintendent of the Great Northern Railway:—"I cannot recommend that a dark-room or compartment should be set apart in our carriages for the purpose of developing, etc., photographs. A very serious expense would be incurred, and we should have less accommodation than at present for the conveyance of passengers in our trains."

* * * *

LADIES' PHOTOGRAPHS.

It has most certainly been a pleasure to examine the large series of photographs which resulted from our Competition for Lady Photographers, and it is decidedly a source of satisfaction to have ocular proof of the fact that the army of amateur workers with the camera includes so many ladies in its ranks. An examination of these specimens of ladies' skill discloses certain features, which are somewhat surprising. The first one is that the technique on the whole is equal, if not superior, to the average of that exhibited in the ordinary open competitions, in which, with one or two exceptions, the sterner sex only enter. Assuming, as we are justified in doing, that the whole of the work necessary in the production of these photographs has been performed by the exhibitors themselves, the fact is patent that ladies are now not content to send their plates to be developed by professional photographers, or to resort to the same source for the prints required from their negatives, but are themselves becoming well versed in the various mechanical manipulations necessary for the production of good photographic work. This is most decidedly as it should be. The mere holding a camera or arranging a view on its ground-glass screen, with the subsequent releasing of a shutter or removal of a lens cap, does not warrant anyone of either sex in posing as a photographer, especially in the event of a complete ignorance existing in even the elementary knowledge required for the subsequent treatment of a sensitive plate in order to produce a negative. Nevertheless, human nature is so constituted that there are some men over whose clouded brains the truth of this assertion has never dawned, and whose vanity blinds them to their absurdity. The clever work now being done by ladies will surely have a tendency to clear the air of these lowerers of a beautiful art to the level attained by mechanical toys, and to stop some of the silly babble prevalent in society upon a subject that requires study and intelligence for its correct appreciation.

As was to be expected, a far greater number of the photographs under review are of subjects more or less of a

domestic character, and the percentage of portraits is much higher than it would be among an equal number of male competitors. If anything, the ladies appear to excel in this class of work. Doubtless their models are more patient under their hands, and they have the advantage a knowledge of the various little arrangements of dress or of attitude can confer which is not generally possessed by their husbands and brothers. Also they bring to this work a love which enables them to take a keen pleasure in its various details. It is, in fact, a field for the camera wherein ladies can distance rivals of the opposite sex. Nevertheless this special branch of photography, as it includes indoor portraiture, with its difficulties anent the lighting, is one requiring the exercise of great expertness, if really good work is aimed at, and therefore the ladies who have sent in specimens of their skill in this direction most decidedly deserve praise for its excellence.

Another feature of these picture which attracts attention lies in the method of printing. Very few negatives have been printed on bromide or platinotype paper, but the majority are on albumenised or the silver chloride papers, and the artistic advantage to be derived from matt surfaces does not appear to have yet permeated the ranks of the amateur photographic sisterhood.

In the photographs of landscapes the views have been, generally speaking, well selected, a discrimination being apparent which is certainly in no way below that generally shown by the majority of the competitors in our open competitions. In some of the minor details, however, especially in those connected with what is known as "finish," a large number of the photographs emanating from ladies display a marked inferiority. To mention one particular, very few of the photographs in question have the edges cut correctly, the outlines in some instances being so faulty that they give the perpendicular lines in the pictures a falling appearance; in very many others the edges are ragged, or rather, we should say, jagged, evidently the result of trying to properly trim them with a pair of small scissors. This is such a noticeable defect, and so marked even in work which in other respects exhibits most painstaking care, that we think we can give the ladies no better advice than this: Never touch a photographic print with a pair of scissors; get a sharp knife and a properly squared cutting glass, which can be purchased from any dealer in photographic appliances; then by placing the paper on another sheet of glass and arranging the lines of the picture in correct parallel with the edges of the cutting glass when placed over it, the margins of the print can be trimmed with the knife, using the thick sides of the glass as its guide. Also remember that by neglecting certain small but necessary precautions in the printing, trimming, and mounting, an otherwise first-class photograph may be utterly ruined, and the effects of all previous skilful work destroyed. The finished result in every respect must be as perfect as care can make it, otherwise it is not a photograph to be proud of. Attention to these small but important matters will enhance the marked excellence of the ladies' work, and as we purpose shortly having another competition of a kindred character, we trust our remarks here made may be taken in a kindly and encouraging spirit by our fair readers, to whom at any time we shall be only too glad to render all the assistance in our power.

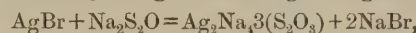
Letters to the Editor.

LIGHT IN THE DARK-ROOM.

SIR,—In his letter of May 16th, Mr. Davies issues a word of warning to those who fix plates in actinic light, and gives Captain Abney as his authority. He states that in fixing in *non-actinic* light we have the following equation:



and that the hyposulphite of silver and soda thus formed is *soluble*; while that by fixing in *actinic* light we get

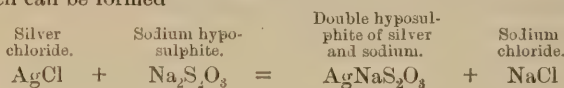


and that the double hyposulphite of silver and sodium is *highly insoluble*, and that the same equations apply equally to AgCl, etc.

What the comparative degrees of insolubility may be need not be discussed, but it is alarming to have such statements applied to albumen chloride prints, which are frequently fixed in actinic light.

That Captain Abney has produced such an equation as the last is difficult to believe, but as I have not the "Treatise on Photography" by me I cannot consult it, but quote the following from the "Instruction in Photography" by the same author, seventh edition, page 18:

"In fixing prints, sodium hyposulphite is almost invariably used as the fixing agent, and a strong solution is necessary to secure permanency of the print. . . The reason why a strong solution should be used is that there are two silver hyposulphites which can be formed



and—



If silver iodide or bromide be substituted for the chloride, the same reactions will occur. The first double hyposulphite is *nearly insoluble* in water; the last is *highly soluble*."

No mention is made here of the action of light, but the formation of soluble or insoluble hyposulphite of silver depends entirely on the strength of the fixing solution. Please observe also that Captain Abney's statement in the "Instruction" as to which hyposulphite is soluble is directly the reverse of what Mr. Davies "quotes" from the "Treatise."

What Abney does say respecting fixing in actinic light is as follows: "The fixing should take place in the dark-room, as a rule, though if the plate be alumed it will not suffer; if it has not been alumed, it will veil, and with alkaline developer often shows green fog." ("Instructions," page 161.)

Mr. B. Davidson's letter of the 23rd May, with the list of authorities he gives, ought to convince any one that plates may be fixed in actinic light when well *washed*, without fear of fog, but on June 6th Mr. Davies returns to the subject, apparently only strengthened in his own theory by Mr. Davidson's letter. Let him quote his authority verbatim, and then there may be some chance of light (actinic or otherwise) being thrown on the subject.—Yours, etc.,

WALTER DE H. BIRCH.

June 16th, 1890.

PHOTOGRAPHIC SURVEY OF SHEFFIELD.

SIR,—I notice in your issue of 20th you have reproduced a letter which appeared in the *Sheffield Independent* from Mr. Howarth, with regard to a suggested photographic survey of this district.

In this letter is a statement which reflects upon the members of the Sheffield Camera Club, followed by a resolution which it is alleged by the writer was passed by the Club.

I do not wish, in your columns, to enter into any controversy as to the reasons which caused the Camera Club to postpone the survey, but I am requested by the Council to say that no such resolution was passed, or any resolution which could by any possibility be twisted to convey such a false impression. As you have published this letter, I beg to enclose copy of correspondence which has appeared in the paper.

It is very desirable that a survey should be carried out, and

speedily, and members of the Camera Club are and have always been willing and desirous of furthering such a scheme, and will welcome a scheme which is brought forward and managed on a reasonable and workable plan.

The reasons why this particular scheme was not carried out are not of public interest, and I regret that the question should have been brought before the public in such an objectionable manner.—I am, etc.,

G. E. MALEHAM,
(Hon. Sec., Sheffield Camera Club.)
June 21st, 1890.

NOTE.—We have seen the letters, which are too long for insertion. Mr. Howarth can, of course, state his case if he likes. It seems to us a pity that the survey could not have been proceeded with.—ED: AM: PRIOT.

* * * *

DISCS OF GLASS AS CONDENSERS.

SIR,—The discussion on the above subject has dropped so long now that I daresay I shall be deemed a nuisance for starting it again; however, I hope you will be able to insert this letter. A short time after the instructions of "Stradivari" appeared I set to work on my condensers. I procured the glasses recommended from the stated address, and after completing both lenses left them two months for the cement to harden before experimenting. I have recently returned to the work; but after setting the lenses in wood with the convex surfaces about a quarter of an inch apart, and making a trial, the result was disappointing. I set up a three-wick magic-lantern lamp in front of my condensers, and a portrait combination on the other side and a screen on the wall. I then placed a negative close to my condensers, and looked at the screen, but could see nothing but a bright spot with a sort of halo round it. I adjusted the apparatus in every imaginable way, increasing and diminishing the distance between all the various parts, and shifting perpendicularly and horizontally to make sure of the centre, but to no purpose. I got mostly on the screen a bright ring with a darkish centre; at other times a bright ring with a darkish ring inside that, and a bright centre. At no time was there a vestige of my negative to be seen on the screen. The only time I ever got an even disc showing my negative, was when the lamp was about three feet from the condensers, and the objective about two; then by holding a piece of paper about three inches from the front lens I got an illuminated disc about an inch and a half in diameter with my negative focussed clearly on it. This was the only position in which I got anything approaching a reproduction of my negative.

If some one of your readers who has been successful in this experiment could show me a way out of my difficulties I should be grateful. Perhaps I ought not to omit to mention that in my glycerine there has come a very faint kind of milky substance which appears to have run down from the edges where the glasses are cemented. Has any one else noticed this, and would it affect the proper working of the lenses?—Yours, etc.,

E. M. H.

* * * *

EXHIBITION SWINDLES.

SIR,—At the Hartlepool Photographic Exhibition, held in November last, it was my *misfortune* to be awarded six meda's. I use the word misfortune advisedly, for though a man may write a few score of letters without much falling off in weight, still the constant licking of postage stamps somewhat glues up his best smile.

Now, sir, no dun has ever been more persistent in his applications to a debtor than I have to the Hon. Secretary of the above-mentioned Society with the object of obtaining my gold medal.

My earliest supplications—in tone and volume like unto the wailings of a motherless calf—appeared to touch some remote corner in the heart of the Hon. Secretary, for he would, at that "prehistoric" date, occasionally reply that he really hoped I might get it. My more recent pleadings—"fixed" and "toned" according to state of liver—now and then did the "bad penny" business, and returned, marked "Gone away—no address."

Now, Mr. Editor, please advise me. Am I to keep a pair of private secretaries, or to die with a postage stamp sticking to the roof of my mouth?—I am, sir, yours in doubt,

West Court, Detling, Maidstone.

JOHN E. AUSTIN.

NOTE.—The publication of this letter may have the desired effect, and secure to Mr. Austin his gold medal. For many weeks we were not advised who had been awarded the AMATEUR PHOTOGRAPHER Medals at the Exhibition. The whole business seems to have been very unsatisfactory.—ED: AM: PRIOT.

PACKING DRY PLATES.

SIR,—We shall all agree with most of Dr. J. Lindsay Johnson's letter on this subject. But I feel it a duty to brother amateurs to record my experience with reference to one sentence, viz., "With nothing between the films."

Last summer I exposed some ten dozen plates (8½ by 6½) in Normandy and Brittany. I packed them face to face with nothing between the films, tied them up very tightly in packets of six, wrapped them in the usual way, and wedged them firmly back into their boxes. I even took the precaution to dust the plates after removing them from the slides.

Result: Some of the negatives damaged by scratching, and many others by small holes, varying from the size of a pinhole to that of a hemp-seed. Cause (as it appears to me): The detachment of minute particles from the film, which worked upon the surfaces. I have often felt such particles projecting upon the film, when passing the fingers over it; and I can understand how the jarring of foreign railways and the merciless handling of porters completed the mischief. The plates were of two well-known brands. Others, with absolutely even surface, may be safe under such treatment, but I do not intend to run the risk again. I shall either place a sheet of chemically harmless paper in immediate contact with each film, or adopt the still better plan (though more tedious) of inserting strips of card to keep the faces apart—just as many makers now pack their plates. An amateur friend has suggested the fastening of very small wafers at each corner as an alternative.—I remain, yours, etc.,

WILLIAM MANN, M.A., S.C.L.

Cathedral Precincts, Bristol.

SIR,—As my letter in last week's number of the AMATEUR PHOTOGRAPHER appears to have been somewhat misinterpreted, may I be allowed to say that, so far from wishing to depreciate the Edwards dry plates, I consider them among the finest and most brilliant that money can procure; indeed, I should never think of travelling without some of them, were it not that I have so many plates broken and spoilt through no other cause than his method of packing them, that I have often preferred to put up with an inferior plate to avoid the danger of breakage or the trouble of repacking them all in a safer way.—I remain, yours very truly,

GEO. LINDSAY JOHNSON.

* * * *

ACID FIXING BATH.

SIR,—Mr. Knott, replying to Mr. Fred Davis, in your issue of June 13th, entirely misses the point in question.

It is quite correct that acidity of the hypo bath should be avoided, since strong acids like sulphuric acid, etc. (and also their acid salts, such as alum), decompose the hypo with the ultimate formation of sulphur dioxide, and the precipitation of sulphur.

Sulphurous acid is an exception to the above rule, and may (if perfectly free from sulphuric acid, such as obtains in a solution of bisulphite of soda) be added to the hypo bath without fear of decomposing it, and at the same time it removes pyro stains much more completely than the usual clearing solutions. The only danger from the use of bisulphite of soda in the fixing bath seems to be that the plates are more liable to frill.—Yours, etc.,

C. F. SEYMOUR ROTHWELL.

SIR,—Mr. Fred Knott has apparently mistaken the purport of my letter. If he will kindly re-read it he will notice that I say that the new compound is an "addition to the fixing bath." I will now quote the *English Mechanic*:—"If to a quart of fixing bath (one to four) we add about 2 ozs. of acid sulphite solution, the bath is rendered acid, but no change takes place otherwise. In this bath any negatives can be fixed."

In looking over the "Year Book of Photography for 1884," I came across "a perpetual hypo bath," described by Henry Platt, which consisted in the addition of 30 grs. of citric acid to the hypo. Mr. Platt stated that he had used it for months, and had cleaned "hundreds of plates" without the slightest stain.—I am, yours, etc.,

FRED DAVIS.

June 19th, 1890.

BUYER AND SELLER.

SIR,—Will you kindly allow me (in that impartial spirit which conducts your admirable journal) to offer a few remarks under this head.

As I was the first Englishman to explain to my fellow-countrymen the working of the roll-holder (though not now in the employ of the Eastman Company), I may lay claim to some knowledge of Eastman productions, and I will say that the introduction of the roll-holder with either negative paper, stripping films, or the new transparent films has created a revolution in photography not even second in importance to that of Sayce and Bolton.

With regard to Eastman prices, I should say the public have nothing to do except determining whether they will pay them or not. So long as the Eastman Company hold their patents they have as much right to charge what they please as any English firm, and, knowing as I do the amount of capital that has been sunk, the experiments made, and the time devoted to bringing these goods to perfection, I am surprised they are not higher.

In reply to "F. G. B.," I will tell him who Mr. Walker is. He is the inventor of the roll-holder, and the chief militant spirit in fighting the battle of the films; and the present business of the Eastman Company is a splendid monument to his indefatigable industry, energy, and courage, and it owes its position solely to Mr. Walker.

Surely courtesy does not depreciate argument, and this, I think, is due from one gentleman to another, and especially as the one attacked is one of "our American cousins."

Trusting I have not ventured too much on your valuable space, I am, etc.,

ARTHUR C. BALDWIN.

June 20th, 1890.

SIR,—Kindly permit me to say a few words in support of those of your correspondents who find cause to grumble at the prices etc., asked for photographic apparatus, etc., by makers and dealers. For instance, a half-plate mahogany camera, with rising front, double swing-back, very portable, etc. (*ad lib.*), three dark-slides, an R. R. lens and tripod; the amount of money asked for same is £15 to £18! Who could possibly reconcile this with a conscientious business transaction of value for value? It seems to me to resolve itself into a matter of "fleecing." Similar prices are often paid by inexperienced people, who run away with the idea that if they pay this price the acme of success is safely within their grasp.

How keen the disappointment which overtakes them when they find others, who have only paid perhaps £5 or £6, have, for all practical and useful purposes, a set capable of the highest results, provided the ability, or shall I say genius, is forthcoming on the part of the operator!

Personally I do not altogether blame dealers, but you, Mr. Editor, must come under the lash as well. How often following the review of an article by the Editors of the photographic Press do we find the following or some similar sentence, "Altogether we consider the article very cheap at the price named, etc."

But, sir, I am happy to say that I think you are coming round to a more common-sense view of matters, and if dealers are not very short-sighted they will doubtless soon follow suit; otherwise amateurs may be compelled to take some steps amongst themselves for their mutual protection against being regarded as a set of people who are to be "fleeced."

Professional photographers, I understand, are treated altogether differently to the long-suffering amateurs, being allowed discounts from list varying from 25 to 50 per cent.—I am, yours truly,

THOS. L. BUCK.

SIR,—Now that the meeting kindly permitted by you between myself and Mr. Abrahams, at your office, has taken place, with results which I trust will be satisfactory to both parties, there is no need for me to trouble you with a lengthy reply to Mr. Abraham's letter, which appeared in your last week's issue. Only on two points I should like to say a few words.

Mr. Abraham stated that my camera is not the "Ideal," as advertised; but I cannot agree with him that it is "totally different." On referring to the invoice I find it is described as a "Special Ideal hand-camera."

I should mention that my first order was for an ordinary Ideal; but finding that it was fitted with the Laverne lens I decided

on having another kind adapted to it, having already a camera fitted with the above named. I accordingly consulted Mr. Abraham about it, and he wrote to me as follows, "We should recommend you to have an Ideal fitted with a Tylar's R.R. lens, and made to focus at two different distances; you would then have, in our opinion, the finest camera and lens it is possible for money to buy." Under these circumstances I think I was quite justified in using the word "Ideal" when writing about it.

Secondly, Mr. Abraham complains that I did not write to him if I found anything wrong with the camera, instead of addressing myself to you. In reply to this, I beg to state that the day after I received the camera I tried it, and was so dissatisfied with it that I *did* write to Mr. Abraham, and told him that I should be happy if he would take it off my hands for £2 less than I had paid for it. My offer was not accepted.

Again thanking you for your courtesy, I remain, yours truly,
June 23rd. J. R.

SIR,—As "Victim's" remarks, in a recent letter in the AMATEUR PHOTOGRAPHER, anent the "firm in Leeds," to whom he "sent stamps for new catalogue," which he has not received, evidently refer to myself, I trust you will permit me to explain to this gentleman and many other "victims" why they have not (or rather, *had* not) received a copy of the catalogue. As stated in my advertisement, which appeared in the same issue as "Victim's" letter, the number of copies originally ordered and received from the printer were found to be wholly inadequate to supply every applicant, and a further edition had to be put in hand, and I could not afford the time and cost of writing to considerably over a thousand unsupplied applicants for the list. I may say, however, that a notice stating reason of delay was sent to all who wrote a second time, and I trust all who have written for one have now received their copy.

Apologising for introducing such a personal matter into your columns, but trusting you will favour me with its insertion in order to justify myself in the eyes of your readers, I remain yours faithfully,

C. C. VEVERS.

Leeds, June 16th, 1890.

SIR,—The complaints *re* buyer and seller might doubtless be multiplied *ad infinitum*, but Mr. Young's letter, I think, strikes at the root of the matter. It is questionable, however, whether any remedy would be found in his suggestion. I think a much more powerful organization of the photographic army is needed to meet the circumstances.

Cannot the amateurs—and professionals as well—supply themselves with every requirement? A few thousand £1 shares, on a co-operative basis, would be readily taken up. We should then know who we were dealing with. I am good for fifty to one hundred shares.—Yours, etc.,

A SUBSCRIBER TO THE "AMATEUR PHOTOGRAPHER"
FROM No. 1.

SIR,—I am very glad to see you ready to admit a warning to dealers on the way in which they treat amateurs.

Some time ago I wrote to a well-known firm for a bottle of spotting medium, enclosing considerably more than the value as marked on the bottle and the postage. In spite of my application the change was never in any shape returned to me.

More recently I wrote to a large London house for small quantities of aurine and aurantia. The aurine was not sent, but instead erythrosine, which, owing to its deliquescent nature, arrived in a worthless condition. I wrote to call attention to the mistake, enclosing a portion of the stained letter, and requesting the aurine, but had no reply.

Again, I wrote to another house requesting a small quantity of paper by return of post, stating I urgently needed the paper. I asked also for an enamelling plate and sample of black paper, but these not urgent. The dealer in this case delayed the whole to ask for sixpence more, and even after this was sent there was long delay before I received the ordered articles.

Lastly, I wrote to Messrs. —, asking for some Aristotype paper and some albumenised. A packet of white Aristotype reached me, indeed, merely tied up in a bit of paper; no attempt to protect it by card or by rolling. It was crumpled and unserviceable. As for the albumenised paper, that never

reached me. In reply to my complaint as to the careless manner of sending and omission to register, came some long rignaroles about the custom of the dealer, as if that were relevant, beyond containing confirmation of my blame. The postage expended by him upon his futile correspondence would have amply secured the arrival of the order.

Well, of course, after this experience I shall order what I want of Paris dealers. I do not remember ever to have had their goods go astray or hang fire in the same remarkable way as happens when English dealers are in question. I must, however, say that Messrs. Perken and Rayment seem to show the utmost attention to foreign correspondence, and contrast most favourably with the firms I allude to above.—Yours, etc.,

ELECTRA.

June 18th, 1890.

* * * *

THE KODAK.

SIR,—Unavoidable circumstances have hindered my answering Mr. Walker's letter in your issue of the 30th ult. before, and I am not perfectly convinced that the subject matter of that letter merits a rejoinder. Mr. Walker credits me in the opening lines of his letter with courtesy, but the following lines do not permit my extending the like credit to him, in so far as concerns his use of uncomplimentary epithets, and the wilful wresting of my remarks. I shall not descend to discuss details with Mr. Walker as to the premises on which he bases his estimate of my technical knowledge, merely referring him to my article, where he will find a perfect refutation of his assumption; neither will I follow his plan of evading a difficulty by starting a fancied second one (for the difficulty which he alludes to in the seventh paragraph of his letter is only a seeming one, of which he must have been aware when he penned it, "pairing" being the simple, uncouth, and usual mode of meeting it.)

With regard to Mr. Walker's absurd flourish of trumpets—I challenge to myself to supply 1,000 lens, etc.—I shall not stultify myself by repeating anything I have before said; but at the same time I would point out the politic overweighting of his challenge, in that he requires a considerable amount of extra preliminary work done in order that they (the lenses) shall be in a condition to "fit Kodak tubes."—I am, etc.,

82, St. Thomas' Road, Finsbury Park,

F. T. NORRIS.

June 22nd, 1890.

SIR,—In your issue of May 30th, I endeavoured to test the sincerity of Mr. Norris's statement as to the cost of a No. 1 Kodak lens, by offering to receive from him 1,000 pairs at the price he had stated they could be obtained for. Having received from him no reply, I now increase my offer to *double* the amount, and I will be pleased to receive a thousand pairs of lenses at *sixpence* per pair.

The last effusion of your anonymous correspondent from Trieste reminds me of one of Abraham Lincoln's stories, who at the beginning of the civil war was attacked by every conceivable kind of abuse. He said he felt like the man who was overtaken in the woods by a furious thunderstorm. Both the thunder and lightning were simply frightful. After several ineffectual prayers, he finally prostrated himself upon the ground, and prayed, "O Lord! if it's all the same to you, I'd like a little more light and a little less noise!"—Yours truly,

WILLIAM H. WALKER.

The Eastman Photographic Materials Company, Ltd.,

115, Oxford Street, London, W.,

June 23rd, 1890.

SIR,—I feel very reluctant to trouble you with a letter, but I consider it would be extremely ungrateful to the Eastman Company to let such an attack as made by your correspondent "F. G. B.'s" letter, dated Trieste, 11th June, pass unchallenged.

I have been using a quarter-plate Kodak for some time, and must say the results I obtain, taking objects moving at ordinary speeds (I have not tried the camera so far on very rapid ones), groups, architecture, etc., are so good in every respect, that I really could not desire anything better. The portability of the camera is such that, considering the number of exposures you can carry, makes it, in my opinion, the best in the market in this respect. Further, the mode of focussing is extremely handy and efficient.

That the lens must be good is clearly borne out by the results—surely the best test!

As far as the price is concerned, I do not grudge same, as the Kodak does all it is represented to do.

If "F. G. B." is so clever, why does he not produce a camera at so low a price as he suggests? Taking into consideration the immense amount of thought and labour it must take to invent a new camera, and the risk of novelties superseding it at any moment, I think a firm producing a really good article is entitled to a fair price. Besides, no person is compelled to purchase a camera unless he so desires. I hardly think it fair of amateurs to attack manufacturers in the way I have noticed in some letters on this subject.

I may mention that I have no pecuniary interest in the Eastman Company, or any connection with the photographic trade in general.—I am, etc.,

A. I.

June 20th, 1890.

(Amateur, pure and simple).

* * * *

THE CAMBERWELL SOCIETY.

SIR,—With respect to Mr. G. Pike's letter in your last issue, I venture to suggest that, as we are arranging for a more convenient meeting-room than the one we at present occupy, and which will, if possible, be nearer Brixton station, it would be to our mutual advantage if he would join forces with us. One strong society will accomplish more good work than two smaller ones in districts so close together. Trusting that this proposal will commend itself to Mr. Pike and his fellow-workers, I remain, yours, etc.,

T. W. LEVETT (Hon. Sec.).

Brixton and Clapham Camera Club,

35, Bedford Road, Clapham, S.W., June 23rd, 1890.

* * * *

EIKONOGEN.

SIR,—This is a good and reliable eikonogen developer, which will keep for a long time in two solutions.

No. 1.

Sulphite of soda	6 ozs.
Hot water	60 "
Eikonogen	1 oz.

Shake the bottle well to make the eikonogen dissolve.

No. 2.

Carbonate of potash	4 ozs.
Water	22 "

To develop normally exposed plate: Add to 4 ozs. of No. 1, 1 drachm of No. 2; after the image has begun to appear, add from 1 to 3 ozs. of No. 2 to give density. The negative gets so dense that you have to hold it up to the window of the dark-room lantern to see what is in it; then immerse in hypo bath, after which it will not be too dense. The same is also very good for bromide paper.—Yours,

J. W. P. GIBSON.

Are Photographic Rambles Remunerative?

BY H. MACLEAN, F.G.S.

THE above query refers to half-holiday club excursions.

Doubtless, many will, without hesitation, answer it in the affirmative; but the District Editor for Liverpool, in his report published on May 9th, mentions a discussion which was held, when it was, *inter alia*, stated that "outings are too scratchy and hurried to be of advantage," and "skimming over country is apt to make operators, particularly the young and inexperienced, slovenly, careless, and indifferent."

The above quotations indicate that there exists a respectable minority which does not consider rambles are remunerative; I therefore propose to set forth a few considerations which should make all concerned pause before deprecating such outings.

Allowing (which I am not inclined to) that there is no-

positive gain derived from a half-day excursion, shall there be "no more cakes and ale"?

"Parcentes ego dexteras
Odi . . ."

Why should we be stingy with our plates? Is there not an alluring charm in sometimes indulging in a genial go-as-you-please photographic jaunt? After all, *some* among the most captivating landscapes have occasionally been obtained with very little premeditation or leisure.

Another and more matter-of-fact reason in favour of summer rambles is that they serve to keep members of a society well in touch at a period when the activity of the society in other directions is almost nil. Moreover, members spending an afternoon in each other's company in the woods, by the sea, or "between the acres of the rye," become much better acquainted than they do by attending ordinary evening meetings; and further, many a man who is a comparative nonentity during the winter session blazes out into a star of the first magnitude when met with in the studio of nature. In fine, there can be no doubt that the good-fellowship of a society is vastly augmented by these quasi-photographic picnics.

Again, it hardly needs demonstration that the half-day jaunt is most beneficial training for our weaker-kneed brethren, although no immediate result of their efforts is to be expected; but, as Shelley has it—

"What though no mice are caught by a young kitten,
May it not leap and play as grown cats do?"

There are hundreds of amateurs who for lack of artistic training misprize the grandest of scenes, perhaps for want of shifting their point of view a dozen feet or so. How can their eyes be opened but by a ramble with an old hand? In no other way can an "object lesson" in selecting views be given; and many are the instances which I can recall where such a lesson has worked wonders for one who had previously been "groping in the dark." The same remark applies to such matters as the calculation of exposures, having regard to the monthly and hourly variations in the amount and quality of light, and also to the character of the scene to be taken.

Surely no practised hand would hold aloof from an excursion because, forsooth, he would have to "give all and take nothing"? But if the old bird is mean enough to leave the fledgling to his fate, "let him take heed, lest he fall" himself. For it is not often that a clever man can spend an afternoon with a score or so of workers without picking up some unconsidered trifle of knowledge, which may prove of more value than it at first sight seems.

Before concluding, I would impress upon those who have the organising of club rambles the advisability of always arranging for the party to visit some place which would not be open to individuals, but to which a society can usually obtain the entrée. I refer to parks, gardens, mansions, and various other private and public enclosures, or buildings having interesting features: of such there are many available within a few miles of any district, if secretaries or presidents will only take the trouble to find them out.

Such visits very much enhance the value attached to membership in a society, and, costing nothing, are yet precious in that they help to keep those who would be backsliders from leaving the society. Besides, some local "big-wigs" are not merely pleased to see members at work on their property, but are thereby led to help the society forward in various ways which their influence or idiosyncrasy may suggest.

In visiting any private property, members should always be reminded by the gentleman in charge (and there ought

always to be a leader) that it behoves each individual to behave with due restraint and consideration, and not do anything likely to bring odium upon the society.

While on the subject of excursions, I would urge on secretaries of photographic societies the desirability of combining to press upon railway companies the necessity of their granting a substantial reduction in fares to parties of photographers going on a club excursion. Most of the railways already issue special cheap tickets to *individual* anglers who belong to fishing clubs, and allow a reduction to football teams, etc. Why should they not do as much for members of photographic societies? Here is something useful for the big London Photographic Associations to occupy themselves about; that is if they can condescend to such hum-drum matters.

Science Notes.

Among the papers read at the meeting of the Royal Society on June 12th, were two by Dr. Huggins and Mrs. Huggins on "A New Group of Lines in the Photographic Spectrum of Sirius;" and "Note on the Photographic Spectrum of the Great Nebula in Orion." The marvellously rapid manner in which photography is revolutionising astronomy is, perhaps, the most remarkable feature of the science of the present day.

The Geographical Society has awarded the Murchison Grant for 1890 to the distinguished Italian photographer, Signor V. Sella, "In consideration of his recent journey to the Caucasus, and the advance made in our knowledge of the physical characteristics and the topography of the chain by means of his series of panoramic photographs taken above the snow-level from points to which his camera had to be conveyed by trained Alpine mountaineers, whom he took out with him for the purpose from North Italy."

Two members of the Birmingham Photographic Society (Messrs. E. Howard Jaques and W. Rooke) left for Norway last week. Those who saw the magnificent series of lantern-slides, the result of Mr. Jaques' previous trips to the north, which he lectured on at the Crystal Palace and elsewhere, will wish him equal success during the present season. He is followed this week by the President of the Birmingham Photographic Society, Mr. J. B. Stone, who conveys a party of about fifty friends. Mr. Stone carries one of the new large-size Kodak cameras, with rolls sufficient for 1,000 exposures.

Photography meets us everywhere. At the meeting of the Linnæan Society on June 5th, Mr. H. Little exhibited and made some remarks upon a photograph of a remarkable aroid, *Amorphophallus titanum*, which had flowered for the first time in this country.

The Photographic Society of Geneva is doing good work in endeavouring to ascertain, by means of photographs, whether there is any truth in the idea that people grow to resemble one another, in features, after living long together. So far as the investigations have been continued, it appears that there is a greater likeness, in faces, between husbands and wives who have lived together for twenty years or more than between brothers and sisters. Every one of our readers, of course, keeps a "family album," and enters therein—yearly, or at more frequent intervals—photographs of every member of his or her family. Such photographs should yield valuable evidence on this question.

Brooks's Comet (quite invisible to the naked eye) was photographed at Algiers, on May 22nd, by M. Ch. Trépied. Two hours' exposure was found necessary.

The amount of sunshine registered at Greenwich Observatory during 1889 was 1,156 hours; and as the sun was above the horizon for 4,454 hours, we see that the weather of last year was one-quarter sunshine and three-quarters cloudy. So far, 1890 has done considerably better. Let us hope that the improvement will be maintained.

Before the Royal Society of Edinburgh, on March 17th, Professor Smith described how he had applied photography to the study of the surface tension of liquids. Ripples are set up on the surface of the liquid by touching it with a vibrating tuning-fork, and the surface is then photographed along with a suitable scale. The lengths of the ripples can then be obtained by microscopic measurements of the negative. The results obtained for

mercury were very concordant, and agreed with the mean value obtained by Quincke.

Those famous astronomers, the brothers Paul and Prosper Henry, state that photographic halos arising from reflection of light at the back of the plate can be obviated by covering the back of the negative with a film of collodion containing in solution a small quantity of chrysoidine. This varnish has an index of refraction which differs but slightly from that of glass. They find that the halos from the most brilliant stars are suppressed completely by it. The varnish dries rapidly and is perfectly transparent.

A most remarkable camera had been prepared by the American scientists to photograph the total eclipse of the sun last December. A concave silver-on-glass mirror, 20 inches in diameter and of 75 foot focus, was placed so as to throw an image of the solar corona into a huge camera-box set upon a cliff, which lay fortunately just beneath the sun at the time of totality. Here a 10 inch image of the sun, beautifully defined, came to focus, and plates measuring 24 by 20 inches and of the highest sensitiveness, were prepared for exposure. But, alas for the 75 foot camera! the sun, as we know, was obscured entirely by clouds during the few precious minutes of the eclipse.

F. G. S.

Photographic Convention of the United Kingdom.

PRESIDENTIAL ADDRESS BY C. H. BOTHAMLEY, F.I.C., F.C.S.

At our meeting last year we were celebrating the jubilee of the photographic negative, and my predecessor in this chair very fitly devoted the greater part of his address to a summary of the history of photography during the past fifty years. Although, as you will remember, that address had a somniferous effect on the delegate from the Leather Bellows Club, the rest of us listened with much interest to the admirable account of the rise and development of photography which was laid before us. The events of a year usually require much briefer treatment than the events of half a century, and a review of the progress of the past twelve months is unfortunately made easier by the fact that little, if anything, of first-rate importance has been done. No discoveries or inventions of far-reaching influence have startled the photographic world.

Much interest has been excited by the announcement that an Austrian, Herr Veresch, had made a decided step towards the solution of the problem of producing photographs in natural colours. It is understood that the method is based on Carey Lea's researches on the photo-compounds of silver, and that it differs from earlier methods in that the sensitive material is used in the form of an emulsion. How far the results are in advance of those obtained by previous experimenters is a point on which there are differences of opinion. It seems practically certain that, at any rate, some improvement has been made in the permanence of the images, and we shall look forward with much interest to the results of further experiments by the same worker.

This problem of photographing objects in their natural colours is of very great interest. It seems to be the one thing on which the non-photographic public has set its heart; nor are photographers lacking in enthusiasm. How far these desires are likely to be realised we cannot tell. More or less imperfect photographs in colours have often been obtained, but they are not capable of multiplication in the way in which we make hundreds of prints from one and the same negative. Whether we shall ever obtain a chromatic negative process is at present merely a matter of conjecture; we can only say that the direction in which the solution of the problem is to be looked for is not yet apparent.

In dealing with another difficulty—the proper monochromatic rendering of coloured objects—we have made much greater progress. No marked advance, however, has been made since last year, and the general adoption of orthochromatic methods is impeded by the facts that their successful employment, especially for outdoor work, necessitates certain modifications in well-established methods of working; that the preparation of the plates involves some manipulative skill and acquaintance with the selective sensitisers to be used; that it is not at all improbable that a sensitiser with a similar name, but of greatly inferior power, will be used unless great care is taken in purchasing the

materials; that the commercial products upon which many have to depend do not at present represent the maximum possibilities of the methods. Nor is this true only of this country. Examination of many reproductions of pictures shows that some Continental workers have not obtained complete mastery over the capabilities of the processes, even for the particular class of work in which their advantages were most quickly recognised. The whole question of colour, physical and physiological, scientific and artistic, is very complex and difficult. Accurate knowledge and conceptions are comparatively recent acquisitions, and it is therefore not surprising that in the practical treatment of its various problems progress is somewhat slow.

Development and developers have, as usual, attracted much attention. Eikonogen has gradually obtained a firm hold as a useful addition to our developing reagents, its special value lying in the fact that it enables us to obtain well-graded negatives where other developers would be very liable to give excessively strong contrasts. It follows that in dealing with very short exposures eikonogen is of the greatest service. In portraiture also it gives very fine results.

Catechol or pyrocatechin has not been fully investigated, partly on account of its high price. Quite recently, however, Dr. W. H. Perkin, jun., has described a ready method of preparing it from guaiacol, an allied substance much lower in price. In this connexion it is interesting to note that Colonel Waterhouse has recently shown that guaiacol itself is a developer, though it does not possess any exceptional powers.

One very important fact in connection with the principles of development has been established by Mr. Lyonel Clark in the course of his elaborate experiments on different developers, and has been confirmed by later experiments of my own made for quite another purpose. It is that the maximum sensitiveness that a plate will show, in other words, the maximum detail obtainable for a given exposure, is the same for all developers and for all variations in the composition of one and the same developer. Different developers differ, however, very considerably in the time required to make the maximum detail visible, and it follows, of course, that the gradations of the resulting negatives are very different. That, in a word, is the nature of the difference between developers—a difference in gradation and not in the maximum detail obtainable, provided that the action of the developer is continued for a sufficient length of time. Recent papers contributed to the Photographic Society by Abney, and to the Society of Chemical Industry by Hurter and Driffield, are worthy of careful study in connection with the question of development.

Photo-mechanical printing processes have made no remarkable new departure, but their applications continue to increase. Cheap illustrated papers, and a great increase in the number of the illustrations in magazines of all kinds, constitute unmistakable evidence of the usefulness of these processes. Without photo-mechanical printing a paper like the *Daily Graphic* would be impracticable.

Chromo-typogravure, which produces the fine results seen in the *Figaro Illustré*, and chromo-collotype, which as yet is not often seen in this country, produce results in many respects superior to those of ordinary chromo-lithography. They are at present our furthest advance in the photographic production of coloured pictures. Colour printing with typogravure, I may perhaps remind you, will reproduce water-colour drawings with a fidelity so great that it may deceive even the artist of the original drawing.

The applications of photography to scientific purposes become every day more numerous and varied, and I do not hesitate to say that it is in this direction that photography has won, and probably will win, its greatest triumphs. Here it is, without a rival or competitor, and does services which nothing else is capable of doing. As a method of fine art it occupies, and probably will always occupy, a subordinate position.

In no branch of science have the photographic results been of greater importance than in astronomy. Mr. Ainslie Common, encouraged by his great successes with his big three-foot reflector, has constructed and set up in his observatory at Ealing a magnificent five-foot reflector, in almost every respect the most powerful and most perfect telescope that has ever been made. It was designed and erected especially for photographic work, and its performances will be watched with great interest. You will, I am sure, share my pleasure in knowing that Mr. Common has very kindly promised to give us, at our meeting next year, an

account of the later developments and results of astronomical photography. Mr. Isaac Roberts, with a much smaller reflector (twenty inches), at his private observatory at Maghull, near Liverpool, has produced some of the most remarkable photographs that have yet been done. Some of these I am fortunate enough to be able to show you, and I would especially call your attention to the wonderful photograph of the great nebula in the constellation Andromeda, which shows that in this nebula we have a new Saturn in the actual process of formation. The condensed central mass, and the system of long oval rings surrounding it, can be very clearly seen. Of the important bearing of this result on the nebular hypothesis, I cannot here speak. It must be a source of great satisfaction to all photographers to know that Mr. Roberts's splendid work, like that of Mr. Common before him, has this month been awarded the blue ribbon of science—the Fellowship of the Royal Society.

A very remarkable recent result is Professor Pickering's discovery that a certain star is really a double star with its components too close together to be resolved by telescopes. The discovery was the result of observations on the variation in the definition of photographs of the spectrum of the star.

Mr. Andrew Pringle will tell us that photography has its triumphs in dealing with the minute as well as with the immense, and some of those triumphs he will bring before us during this meeting.

Amongst other things, photography has been largely and systematically applied to the study of lightning, and by Lieut. R. Abercromby to the study of clouds and meteorology; by Lord Rayleigh to the study of the effects of electrification on jets of liquid; and by Mr. C. V. Boys to the investigation of falling drops of water. Mr. Friese Greene will describe to us a new form of magazine camera which he has invented, and which is especially suitable for investigations of the kind to which I have just referred. An account of Mr. Muybridge's work we heard from his own lips last year, and this year Mr. Gambier Bolton is to tell us of the results which he has obtained in applying photography to the study of animals from a different point of view. There is, in fact, no branch of natural science in which photography is not rapidly becoming indispensable.

If the application of photography to science have been numerous and successful, the same cannot be said of the applications of science to photography. Most of the problems awaiting solution at our last meeting still remain unsolved. The careful experiments of Mr. Chapman Jones have given us accurate knowledge of some aspects of mercurial intensification, but of the real nature of the latent photographic image, of the change which silver compounds undergo when exposed to light, and of many other reactions which underlie some of our most important processes, we are still almost entirely ignorant. The reasons are not very far to seek. The investigators in these subjects throughout the whole world at the present time may almost be counted on the fingers. I say *investigators* designedly; of experimenters of a certain kind we have enough and to spare, but of competent investigators there are very few indeed. The fundamental problems to which I have referred are very complex and difficult, and their investigation requires a knowledge of chemistry and physics much greater than is usually possessed by photographers, and, on the other hand, a better practical acquaintance with photography than competent chemists and physicists usually have. Further, they involve many micro-chemical and electro-chemical changes with which we are at present imperfectly acquainted. In the less difficult questions of *technique* and processes, the relative merits of different modes of treatment and the like, we might have expected to find more satisfactory progress; but here also we have made no great advances. From time to time, it is true, papers appear in the journals recording so-called experimental investigations of the action of various developers, relative sensitiveness of different plates, and similar matters. In not a few instances they leave us just where we were. So far as the advancement of photography is concerned they represent merely so much wasted time and wasted material—wasted because for want of attention to some indispensable conditions, neglect to eliminate important sources of error, want of distinction between several possible causes and the like, no definite conclusions can be drawn from the evidence offered. The enthusiasm of the experimenters is undoubted, and if a thirst for notoriety is not always invisible, we may take it that a desire to advance photography is their chief incentive. Why, then, do their efforts so often lead to nothing? Chiefly from a want of training in the

art of experiment; from want of acquaintance with the scientific method. A really good experimenter is a rarity; an accurate observer must be both born and made, and is a still less common species. With very rare exceptions, indeed, the scientific method, which includes not only the arts of experiment and observation, but also the power of properly co-ordinating the facts, and of making accurate deductions from them, is only to be acquired by careful and long training. Such training, it is a mere truism to say, very few photographers have had, but to it we must undoubtedly look for our future progress.

I do not, of course, mean that good work cannot be done in photography unless a man has a profound acquaintance with chemistry and physics. I see before me a sufficient number of living examples to at once disprove any such assertion; the scientific method lies not in the matter but in the manner. It would be out of place here to attempt any definitions or illustrations of what the scientific method really is. We might define it negatively as that which is usually absent in photographic experiments, but that would not take us much further. One of the most important characteristics of the scientific method is great reserve and caution in making deductions; one of the chief characteristics of not a few so-called photographic experimenters is a fatal facility for making hasty and incorrect deductions from imperfect data. No stronger proof can be found of the fact that photography is comparatively in its infancy, that its fundamental principles are not generally understood, than the rubbish which is sometimes brought before photographic societies in the form of papers—papers which even now and again escape the waste-paper baskets of the photographic journals. This latter catastrophe, of course, only happens when the editor is away on a holiday. Similar productions are characteristic of all crafts or arts which are still carried on largely by rule-of-thumb; they would not be tolerated in societies of a truly scientific character, or in an art which was really carried out on scientific principles.

Photography has an artistic as well as a scientific and technical side, and if I have not unnaturally dealt with the scientific questions first, I do not forget that the majority of photographers regard the artistic aspects as the more important. In the artistic development we may, I venture to think, congratulate ourselves upon steady and well-founded progress. Argument as to whether photography is or is not a method of fine art is no longer necessary. Its place has been taken by discussions, often of an animated kind, between the different schools of photographic artists—naturalists, naturalists, realists, and the like. Very few who are competent to deal with the matter now refuse to admit that in the hands of a man of artistic temperament and training, photography may be a method of pictorial fine art just as much as mezzotint or sepia. We shall all admit that the possession of a camera and lens will not make a man an artist; neither will the possession of a palette and a box of paints. It is also true that a very large majority of the photographs which we see are far from having any claim to be regarded as works of art, but is that not also true of the bulk of the paintings which are produced? Fine art, I take it, lies not in the method, but in the use of it; in all cases it is the man, not his medium of expression, that determines the result.

In 1873 Mr. P. G. Hamerton, the well-known art critic and editor of the *Portfolio*, very clearly and tersely summed up the case against the claims of photography to rank as a method of fine art. "(1) It is false in local colour, putting all the lights and darks of natural colouring out of tune. (2) It is false in light, not being able to make those subdivisions in the scale which are necessary to attain relative truth. (3) It is false in perspective, and consequently in proportions and forms. (4) Its literalness and incapacity for selection and emphasis are antagonistic to the artistic spirit."

Most of this was true enough seventeen years ago, but we have advanced a little in our knowledge of science and art since then. Falsity in local colour has almost disappeared before the development of orthochromatic methods, the principle of which was discovered in the very year in which Mr. Hamerton wrote. Falsity of light arises mainly from the use of plates of unsuitable quality, and from imperfect knowledge of exposure and development on the part of the operator. Falsity in perspective and the proportion of forms is entirely a question of the proper or improper use of lenses, and need not exist at all. Literalness and incapacity for selection and emphasis are defects in the photographer more than in photography. How far we have advanced in this direction I will bring to witness, if not Mr. Hamerton himself, at any

rate Mr. Hamerton's paper. In the January number of this year, speaking of the photographs which illustrate Miss Agnes Giberne's book, "The Ocean of Air," the *Portfolio* says, "But what it concerns us to observe is that though they are merely literal transcripts from nature, and no other artistic faculty than that of selection has been exercised in their production, this faculty alone has sufficed in several instances to produce genuine works of art. If an artist were to take, for instance, the 'Trees in a Mist,' photographed by Mr. Sutcliffe, of Whitby, it is not too much to say that he would find it difficult to improve the composition or to alter a single line for the better."

In their assault on the fortress of art, photographers have already carried the barbarian, and many may be found in the outer ward. A few have even forced their way into the inner court, but the keep remains in the hands of the painters and sculptors, and in their hands, I doubt not, it always will remain. Every method of fine art has its limitations, and in the case of photography these limitations are in many respects more severe than in any other method. I for one accept Mr. Ruskin's *dictum*, that every true work of art shows distinctly the method by which it has been produced, and that its character and possibilities are largely determined by the method. I have little sympathy with those whose chief anxiety seems to be to make their photographs look like something else. I believe that if photography is to maintain the position already won, and is to make further advances as a method of fine art, we must not only be fully acquainted with and make the most of its capabilities, but we must also quite clearly recognise its limitations. We must be content to admit that there are certain classes of subjects which come rightly within the scope of the painter, but are unfit for treatment by photography. In our appreciation of a picture we cannot forget the method by which it has been produced; and when, for example, you see a photograph professedly of an incident which took place before photography was invented, the unreality and want of truth is too prominent. You are unable to rid your mind of the idea that, after all, it is only a literal representation of a group of models. When, too, we see photographs which profess to represent those human emotions which we commonly hold sacred from intrusion, a sense of unfitness more than counterbalances any pleasure arising out of mere technical artistic skill. All this has been pointed out before, more appropriately, and with much greater force, by the *doyen* of photographic artists, Mr. H. P. Robinson. Lately in America they have very largely developed the practice of photographic competitions, prizes being given for the best set of photographs illustrating some poem or part of a poem, or story; and to some extent the practice has unfortunately, like the potato beetle, spread to this country. If the subjects are properly chosen, with due regard to time and place, such competitions may not do any harm, though it is contrary to experience to expect that any real fine art will be developed in such a manner; but when the outcome is photographs of such scenes as a girl in agony by the deathbed of her father, done, of course, with the help of models—to take only one example out of those which you may see in the American magazines—it is an outrage upon one's sense of the artistic fitness of things.

Even where groups of figure studies of the class to which I am referring are successful, the result is often due to the models quite as much as to the photographer. He has to be content with the best he can make of them; he cannot with his camera alter lines and expressions as a painter can with his brush. In the hands of a few masters pictures of this kind are undoubtedly often successful, but in the greater number of instances they are not at all pleasing to any one but the photographer and the models, and sometimes not even to the models. I hold that in the interests of photography as a method of fine art it is to be regretted that photographers do not chiefly confine themselves to the classes and subjects that photography can deal with excellently, instead of striving after effects and results which, from the essential limitations of the method, are a severe strain on its capabilities. What class of subjects, you may ask, do I regard as proper to photography from the artistic point of view? I would reply, portraiture pure and simple, with studies of figures in costume and groups, if you like, provided that they are put forward as such; landscape and seascape, in which figures are either subordinate or absent altogether. At the risk of making invidious distinctions, I would cite Wellington's "Eventide," Mayland's "There is sorrow on the sea," Gale's "Sleepy Hollow," many of the studies of Sutcliffe, and many of the landscapes of Green, as examples of the class of work which seem to me to

show photography at its best. Some one may raise the old objection that in dealing with pure landscape and seascape you have not sufficient human interest; you can only represent the literal beauty of your subject, and have no opportunity for the idealisation which some hold, though others do not, to be essential to all fine art. I decline to accept the dogma, but even if it were true I would reply in the words of Fra Filippo Lippi:—

"If you get simple beauty, and nought else,
You get about the best thing God invents;
That's somewhat; and you'll find the soul you have missed
Within yourself when you return him thanks."

What can be done to promote the advance of photography, scientific and artistic? The development of a desire for better training, and the provision of means to satisfy the desire. Here, as in many educational matters, we are behind our Continental competitors. Germany has long had an efficient school at Berlin, under Professor H. W. Vogel, and there is a well-known school of a more technical character at Schloss Gronenbach, under the direction of Herr W. Cronenberg. Zurich has a new photographic laboratory full to overflowing. Austria has its new and splendid Photographic Institute, with abundant accommodation, and a large staff of teachers under the direction of Professor Eder, and they attract students not only from all parts of the Continent, but also from England and America. Here in this country we have the schools at the Polytechnic and the Birkbeck Institute, and in various science and University Colleges up and down the country, instruction is given in the principles and practice of photography, but all of them together are scarcely equal to the Institute at Vienna, and they confine their attention almost exclusively to teaching, doing but little in the way of research. In America they are not even so well off as we are. So far as I can learn, there is only one school of any importance, that at Chataqua.

It has been proposed to found a Photographic Institute in this country, and we shall all be agreed that, founded on a right basis and conducted on right lines, it might be of incalculable benefit to photography. Founded on a right basis and conducted on right lines—that is the essence of the whole matter, so far as possible success is concerned. An Institute of Photography, I take it, should teach and examine and conduct original research. It might possibly also act as a court of arbitration in disputes involving technical matters, but the advancement of photography in all its branches and aspects, by teaching and research, should be its chief business. It should be thoroughly, though not ambitiously, equipped; it must be free from connection with commercial interests of any kind; above all, it must be free from the immaturity which so often clings round present-day amateurism.

Whether, when all these conditions were fulfilled, it would attract a satisfactory number of students is a matter of conjecture. We English are slow to avail ourselves of our advantages in matters educational, even where the knowledge to be acquired has a direct monetary value. The experience of existing schools is not altogether encouraging, but the prestige which would attach from the beginning to a properly equipped institution especially devoted to photography would probably do much. The standard of every-day requirements in photography is gradually being raised and there is little doubt that better instruction will be necessary to produce and maintain the higher degree of skill demanded. One thing is certain, that when the establishment of such an institution comes within the sphere of practical politics, the members of the Photographic Convention will not be backward in their support of it.

After all, the real progress of photography depends no more on institutes than the progress of civilisation and human knowledge depends on Acts of Parliament. Am I not right in holding that the spirit which should animate every follower of the photographic art is the spirit which inspired the poet when he wrote—

"In after days, when grasses high
O'er-top the stone where I shall lie,
Though ill or well the world adjust
My slender claim to honoured dust,
I shall not question or reply.

"I shall not see the morning sky;
I shall not hear the night wind sigh;
I shall be mute, as all men must,
In after days!

"But yet, now living, fain were I
That some one then should testify,
Saying—'He held his pen in trust
To Art, not serving shame or lust,
Will none?—Then let my memory die
In after days!"

Register of Dark-Rooms, 1890.

WE beg herewith to present to our readers a revised list of "Dark-Rooms." To our own Register we have added a list of Provincial Hotels where dark-rooms may be obtained, and also a list of towns on the Continent, with addresses, and where either dark-rooms or photographic materials may be obtained. In adding these additional lists we beg to acknowledge our indebtedness to the Britannia Works Company. We have also to mention that the list of Hotels is compiled to a great extent from that excellent publication, the "C. T. C. Handbook."

"Amateur Photographer" List of Dark-Rooms.

We class them in four divisions, *i.e.*, *a* amateur, *d* dealer or professional, *h* hotel, and *s* photographic society.

In our letter of introduction full particulars are given as to owner, address, charges (if any); plates, chemicals, etc., kept by dealers; terms for temporary membership of societies; hotels; distance from station, etc., etc.

Every application for letter of introduction must be accompanied by SIX PENNY STAMPS. The owner of "Dark-Room" will be advised by same post as the applicant. The envelopes should bear the endorsement DARK-ROOMS.

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|----------------------------------|---------------------------------------|-----------------------------------|---------------------------------------|
| <i>d</i> Aberdeen | <i>d</i> Colwyn Bay | <i>d</i> Ilfracombe | <i>d</i> Reading |
| <i>d</i> Aberystwith | <i>a</i> Coniston | <i>d, s</i> Ipswich | <i>h</i> Redcar |
| <i>d</i> Addingham, Yorks. | <i>d, s</i> Crewe | <i>d</i> Jarrow | <i>h</i> Redditch |
| <i>d</i> Amble, Northumberland | <i>d</i> Crewkerne | <i>d</i> Jersey | <i>d</i> Rhayader |
| <i>d</i> Andover, Hants | <i>d</i> Croydon | <i>d, s</i> Keighley | <i>d</i> Richmond, Surrey |
| <i>a</i> Aylesbury, Bucks | <i>a</i> Dalton-in-Furness | <i>s</i> Kendal | <i>a</i> Ringwood, Hants |
| <i>d</i> Barmouth, N. Wales | <i>d</i> Darlington | <i>a</i> Kimberley | <i>d</i> Rochdale |
| <i>a</i> Barnsley | <i>h</i> Dartmouth | <i>d</i> King's Lynn | <i>a</i> Rodley, near Leeds |
| <i>d</i> Barnstaple | <i>d</i> Derby | <i>a</i> Kingstown, Dublin | <i>d</i> Romford |
| <i>d, s</i> Bath | <i>a</i> Devizes | <i>d, h</i> Lancaster | <i>d</i> Royston |
| <i>h</i> Beaconsfield | <i>h</i> Dingwall, N.B. | <i>d</i> Larne | <i>d</i> Ryde, Isle of Wight |
| <i>a</i> Bedford | <i>a</i> Doncaster | <i>d</i> Leamington | <i>h</i> Ryde |
| <i>d, s</i> Belfast | <i>a, d, h</i> Douglas, Isle of Man | <i>h</i> Ledbury | <i>a</i> St. Agnes |
| <i>s</i> Belfast | <i>d</i> Dover | <i>a, d</i> Leeds | <i>h</i> St. Asaph |
| <i>d</i> Belper | <i>d, h</i> Dublin | <i>a, d</i> Leicester | <i>d</i> St. Bees |
| <i>d</i> Bexhill-on-Sea | <i>h</i> Dunblane, N.B. | <i>a</i> Lenzie, N.B. | <i>a</i> St. Helens |
| <i>d</i> Birchington-on-Sea | <i>d, s</i> Dundee | <i>d</i> Leytonstone, Essex | <i>d</i> St. Heliers |
| <i>a, d, s</i> Birmingham | <i>a</i> Dungarvar, co. Waterford | <i>d</i> Lincoln | <i>a</i> St. Ives |
| <i>d</i> Blackburn, Lancs. | <i>a</i> Duns | <i>d, s</i> Liverpool | <i>d</i> St. Leonards |
| <i>h</i> Bodiam | <i>d</i> Durham | <i>d</i> Llandudno | <i>h</i> St. Mellons |
| <i>d</i> Bodmin | <i>h</i> Ebbw Vale | <i>d</i> Llanidloes | <i>h</i> St. Neots |
| <i>h</i> Bonar Bridge | <i>d</i> Edinburgh | <i>d</i> London, Aldersgate, E.C. | <i>d</i> Sandgate |
| <i>h</i> Boro' Bridge, Yorks. | <i>s</i> Egremont | <i>a</i> Bloomsbury, W.C. | <i>d</i> Sandown, Isle of Wight |
| <i>d</i> Bournemouth | <i>h</i> Ennistymon, co. Clare | <i>d</i> Borough, S.E. | <i>a, d</i> Scarborough |
| <i>d</i> Bradford | <i>a</i> Enfield Town | <i>a</i> Chelsea, S.W. | <i>h</i> Seddlescomb, near Battle |
| <i>d</i> Bramley, near Leeds | <i>a, d</i> Evesham | <i>d</i> Fenchurch Street, E.C. | <i>a</i> Shaftesbury |
| <i>d, h</i> Brechin, N.B. | <i>d</i> Exeter | <i>d</i> Fleet Street, E.C. | <i>d</i> Shanklin, Isle of Wight |
| <i>h</i> Bridge, near Canterbury | <i>s</i> Falkirk | <i>d</i> Highgate, N. | <i>d, s</i> Sheffield |
| <i>d</i> Bridlington Quay | <i>d</i> Falmouth | <i>a</i> Kingsland, N.E. | <i>h</i> Shepton Mallet |
| <i>h</i> Brigg, Yorks. | <i>d</i> Faversham | <i>d</i> London Bridge, S.E. | <i>d</i> Shrewsbury |
| <i>d</i> Brighton, Hove | <i>d</i> Felixstowe | <i>d</i> New Cross, S.E. | <i>h</i> Sleaford |
| <i>d, h</i> Brighton | <i>h</i> Finchley | <i>d</i> Walworth Road, S.E. | <i>d, h</i> Southampton |
| <i>d</i> Bristol | <i>h</i> Fochabers, N.B. | <i>a</i> Long Eaton | <i>h</i> Southend-on-Sea |
| <i>h</i> Broadway, Worcester | <i>d</i> Folkestone | <i>h</i> Long Melford | <i>a</i> Southport |
| <i>d</i> Bromley, Kent | <i>a</i> Four Ashes, near Stourbridge | <i>d</i> Loughborough | <i>a, s</i> Southsea |
| <i>h</i> Brough, Westmoreland | <i>a</i> Frodsham | <i>a</i> Louth | <i>d</i> Stamford |
| <i>s</i> Burnley | <i>a</i> Galashiels, N.B. | <i>a</i> Ludlow | <i>a</i> Steyning |
| <i>d</i> Burslem | <i>h</i> Giant's Causeway, Ireland | <i>d</i> Lynn | <i>d</i> Stockton-on-Tees |
| | <i>d, s</i> Glasgow | <i>a</i> Lythe, Whitby | <i>a</i> Stoke-on-Trent |
| | <i>d</i> Gloucester | <i>h</i> Macroon, N.B., co. Cork | <i>a</i> Stony Stratford |
| | <i>d</i> Gorleston | <i>a</i> Madeley, Salop | <i>a, d</i> Stourbridge |
| | <i>a</i> Goring | <i>d</i> Maidenhead | <i>d, h</i> Stratford-on-Avon |
| | <i>d</i> Gravesend | <i>a</i> Mainz, Germany | <i>d</i> Stroud |
| | <i>d</i> Great Yarmouth | <i>d</i> Manchester | <i>h</i> Sudbury, Suffolk |
| | | <i>h</i> Mallow, co. Cork | <i>d</i> Sunderland |
| | | <i>a</i> Malta | <i>h</i> Sutton Bridge |
| | | <i>d</i> Malvern | <i>d</i> Swindon |
| | | <i>d</i> Mansfield | |
| | | <i>d</i> Margate | <i>d</i> Taunton |
| | | <i>h</i> Merthyr Tydfil | <i>a</i> Tavistock |
| | | <i>d</i> Merton | <i>a</i> Thornton Dale, nr. Pickering |
| | | <i>d</i> Middlesbrough | <i>h</i> Thorpe |
| | | <i>d</i> Minehead | <i>h</i> Tintern Abbey |
| | | <i>h</i> Monmouth | <i>d</i> Todmorden |
| | | <i>d</i> Montrose, N.B. | <i>d</i> Torquay |
| | | <i>a</i> Mountsorrel | <i>h</i> Tring |
| | | <i>a</i> Mumbles, near Swansea | <i>d</i> Tunbridge Wells |
| | | | <i>a</i> Tynemouth |
| | | | |
| | | | <i>s</i> Uttoxeter |
| | | | |
| | | | <i>a</i> Ventnor |
| | | | |
| | | | <i>h</i> Wadebridge |
| | | | <i>d</i> Wakefield |
| | | | <i>h</i> Warwick |
| | | | <i>a, d</i> Waterford |
| | | | <i>a</i> Wellington, Salop |
| | | | <i>s</i> West Hartlepool |
| | | | <i>d</i> Weston-super-Mare |
| | | | <i>h</i> Wetwang, York |
| | | | <i>d</i> Weymouth |
| | | | <i>d</i> Whitby |
| | | | <i>d</i> Wimbledon |
| | | | <i>d, h</i> Windsor and Eton |
| | | | <i>d</i> Wisbech |
| | | | <i>a</i> Wolverhampton |
| | | | <i>a</i> Worcester |
| | | | <i>d, h</i> Worthing |
| | | | |
| | | | <i>a</i> Yarm |
| | | | <i>d</i> Yeovil |
| | | | <i>a, d</i> York |
| | | | <i>d</i> Youghal |

List of Hotels in the United Kingdom placing a Dark-Room at the disposal of guests.

- Amphill, Beds.—White Hart
Ashbourn, Derby—Green Man
Ashby-de-la-Zouch—Queen's Head
Alford, Lincs.—White Horse
Abergavenny—Swan
Ambleside, Westmoreland—Water Head
Aberavon—Walnut Street
Alloa, N.B.—Crown
Annan, N.B.—Queensberry Arms
Aberdour, N.B.—Greig's
Anstruther, N.B.—Commercial
Alyth, N.B.—Airlie Arms
- Burnham, East, Bucks.—Crown
Brixham, Devon—Bolton
Burnham-on-Sea, Essex—White Hart
Berkeley Road, Glo'ster—Prince of Wales
Bromyard, Hereford—Falcon
Bishop Stortford—George
Brading, Isle of White—Red Lion
Bury—White Horse
Berwick—Red Lion
Bridgnorth, Salop—Crown and Swan
Burton, Staff.—Queen's
Beccles, Staff.—King's Head
Ballycastle, Antrim—Antrim Arms
Brighouse and Rastrick, Yorks.—Royal
Bethesda, Carnarvon—Douglas Arms
Bettws-y-Coed, Carnarvon—Glan Aber
Blaenau Festiniog—Maensferran
Banff, N.B.—Fife Arms
Burntisland, N.B.—Forth
Bothwell, N.B.—Clyde
Baltinglass, co. Wicklow—Commercial
- Chesham, Bucks.—Crown
Cheadle, Cheshire—George and Dragon
Carlisle—Grand Central and Viaduct
Chapel-en-le-Frith, Derby—King's Arms
Chudleigh, Devon—Clifford Arms
Canterbury—Falstaff
Chatham—Mitre and Clarence
Colsterworth, Lincs.—White Swan
Cheddar, Som.—Cliff
Cannock, Staff.—Crown
Coventry—Queen's
Corrig-y-Druiddion, Denbigh—White Lion
Cardiff—Angel
Corwen—Owen Glandwr
Cullen, N.B.—Seafeld Arms
Cupar, N.B.—Tontine
Castle Douglas, N.B.—Douglas Arms
Charleville, co. Cork—Imperial
Clanalsilty, co. Cork—Donovan's
Cappoquin, co. Waterford—Moore's
- Dovedale (Thorpe), Derby—Peveril
Devonport—Royal
Danbury, Essex—Griffin
Dursley, Glo'ster—Old Bell
Deal, Kent—Black Horse
- Droitwich, Wores.—Royal Brine Baths
Dudley, Wores.—Dudley Arms
Dolgelly—Angel
Dunbar, N.B.—St. George
Dunfermline, N.B.—St. Margaret's
Donne, N.B.—Woodside, and Donne
- Eton, Bucks.—Crown and Cushion
Ely, Cambs.—Bell
Epping, Essex—Cock
Eccleshall, Staff.—King's Arms
Egham—Victoria and Catherine Wheel
Easingwold, Yorks.—George
Elgin, N.B.—City
Ennis, co. Clare—Queen's
East Grinstead—Railway
- Fenny Stratford, Bucks.—Swan
Feckenham, Worcester.—Rose and Crown
Forres, N.B.—Royal Station
Falkland—Commercial
- Grays, Essex—King's Arms
Gosport—Railway
Glastonbury, Somerset—Crown
Guildford—Greyhound
Goole, Yorks.—Sydney
Guisborough, Yorks.—Bucks
Garelockhead, N.B.—Garelockhead
Garlieston, N.B.—Queen's Arms
Greystones, co. Wicklow—Railway
- Hungerford, Berks.—Three Swans
Hooton, Cheshire—Hooton
Hyde, Cheshire—Norfolk Arms
Helston, Cornwall—Star
Harrow—Railway
Hawes, Yorks.—White Hart
Howden, Yorks.—Bowman's
Holmfirth, Yorks.—Victoria
- Irthlingborough, Northants.—Bull
Inch, Aberdeen—Station
Innerleithen—Traquair
Invergordon, N.B.—Commercial
- Keswick, Cumb.—Keswick
Kington Hereford—Burton
Kettering, Northants.—George
Keynsham, Somerset—Lamb and Lark
Kingston-on-Thames—Sun, and Norbiton
Kenilworth—King's Arms
Kinghorn, N.B.—Kinghorn
Kirriemuir, N.B.—Crown
Kirkcaldy, N.B.—George
Kirkcudbright, N.B.—Commercial
Kingussie, N.B.—Pullar's
Kilkenny—Victoria
- Leighton Buzzard, Beds.—Union
Luton, Beds.—Red Lion
Lymm, Cheshire—Fleece
Lydford, Devon—Manor
Long Newton, Durham—London-derry Arms
Leominster—Royal Oak
Leigh, Lancs.—Lilford
Levensholme, Lancs.—Midway
Leake, Lincs.—White Hart
Longport, Somerset.—Langport Arms
- L Leatherhead, Surrey—Royal Oak
Llandilo, Carmarthen—Cawdor Arms
Llanelli, Carmarthen—Thomas Arms
Llanberis, Carnarvon—Dolbarn
Llangollen—Royal
Llanfair, Montgom.—Boat
Llanfyllin, Montgom.—Wynn-stay Arms
Llangurig, Montgom.—Black Lion
Llanidloes, Montgom.—Trewythen Arms
Leven, N.B.—Caledonian
Lanark, N.B.—Clydesdale
Loch Katrine, N.B.—Stronach-lacher
Limerick—George
Marlow, Bucks—Greyhound
Macclesfield—Queen's
Maryport, Cumb.—Golden Lion
Millom, Cumb.—West County
Matlock Bath, Derby—New Bath
Maldon, Essex—King's Head
Marshfield, Glo'ster.—Catherine Wheel
Maidstone—Bell
Middleton, Lanc.—Assheton Arms
Market Harboro'—Peacock
Melton Mowbray—George
Melksham, Wilts.—King's Arms
Mostyn, Flint.—Mostyn Arms
Mallwyd, Montgom.—Peniarth Arms
Montgomery—Dragon
Milford Haven—Lord Nelson
Mitchelestown, Cork—Fitzgerald
Nailsworth, Gloucester—George
Newent, Gloucester—George
Northampton—George
Newport, Salop—Barley Mow
Narberth, Pembroke—De Rutzen Arms
Nairn, N.B.—Marine
Newton Stewart—Galloway
Oundle, Northants.—Talbot
Padstow, Cornwall—Commercial
Plymouth—Farley's
Purfleet, Essex—Royal
Pontypool, Mon.—Crown
Peterhead—Laing's
Peebles, N.B.—Tontine
Romsey, Hants—White Horse
Redbourne, Herts.—Bull
Ramsey, Isle of Man—Mitre
Rochester, Kent—Bull
Raglan, Mon.—Beaufort Arms
- Rotherham—Crown
Roslin, N.B.—Original Roslin
Sandy, Beds.—Greyhound
Silsoe, Beds.—George
Sale, Cheshire—Wardens
Stockport, Cheshire—Garden's
South Molton, Devon—George
Sandwich, Kent—Bell
Spalding—White Hart
Spilsby, Lincs.—Queen's Head, and White Hart
Stafford—Swan
Sutton, Surrey—Cock and Angel
Studley, Warwick—Duke of Marlborough
Shap, Westmoreland—Greyhound
Sedburgh, Westmoreland—White Hart
Stourport, Worcester—Swan
Sherburn, Scarboro'—Pigeon Pie
Swansea—Royal
Stow, N.B.—Railway
St. Andrew's, N.B.—Royal
Stromness—Mason's Arms
Stranraer, N.B.—George
Tarporely, Cheshire—Swan
Torrington, Devon.—Globe
Towcester—Pomfret Arms
Thames Ditton, Surrey—Orleans Arms
Tarbert, Loch Fyne, N.B.—Maclean's
Usk, Mon.—Three Salmons
Upper Arley, Staff.—Valentia Arms
Wolsingham, Berks—Rose, and Bush
Whaley Bridge, Cheshire—Railway
Whitehaven, Cumb.—Grand
Watford, Herts.—Essex Arms
Welwyn, Herts.—Wellington
Westerham, Kent—Crown
Warrington—Norton Arms
Wainfleet, Lincs.—Woolpack
Winterton, Lincs.—Cross Keys
Wells, Norfolk—Crown
Wymondham, Norfolk—King's Head
Wooler, Northumberland—Cottage
Whitchurch, Salop—Victoria
Wedmore, Somerset.—George
Warminster, Wilts.—Bath Arms
Welton, Hull—Green Dragon
Withernsea, Yorks.—Queen's
Wrexham—Wynnstay Arms, and Regent Street
Welshpool—Royal Oak

List of Dark-Rooms, etc., on the Continent.

PLATES and photographic material may be obtained at the following towns on the Continent:—

Austria.

- Vienna (T. W. Melhuish, I. Schenken Strasse, 10)
Vienna (Oskar Cramer, The Graben)
- Prague (Adolf Fische, Ferdinand Strasse, 23)

Egypt.

- Alexandria Cairo

France.

- Nice (M. Ferrari, photographer)
San Raphael (M. Ferrari, photographer)
Cannes (Buisson, 12, Boulevard de la Croisette)
- Lausanne (Lausanne Amateur Photographic Society)
Paris (Maison Molteni, Rue Chateau d'Eau, 44)
Mentone (M. An. Fosse, Rue Partoneux)

Germany.

Berlin (R. Talbot, Kaiser Willhelm Strasse, 46)	Dresden (Ernest Kersler, Briest Strasse, 3)
Dresden (C. F. Bernhardt, Palais Gutenberg)	Hanover (S. Federlein, Loui- senstrasse, 2)
	*Mainz

Greece.

Athens (Arthur Hill, Lloyd's Agent)

Holland and Belgium.

Amsterdam	Montague aux Herbes
Antwerp (L. Van Neck, Rue Klapdorp, 10)	Potagères
Blankenburgh	Dinant
Brussels (L. Van Neck, Rue	La Hague
	Liège
	Ostend

Italy.

San Remo (J. Scotto, Rue Victor Emmanuel, 16)	Corso
Genoa (F. Passadoro, Via Ponte Reale, 242)	Gratz
Rome (J. Juliana, Via Babuino, 147)	Padua
Bologna	Peruggia
	Ravenna
	Spezzia
	Venice

Malta.Norway and Sweden.*

Bergen (J. Peter, Torvet, 16)	Stavanger
Christiana (H. Abel, Carl Johans Gade, 45)	Stockholm
	Trondhjem

Portugal.

Lisbon (J. J. Ribeiro, Rue Aurea, 222)

Russia.

Astracan	St. Petersburg (T. Jochim and Co., Petite Morskaia, 4)
Charkoff	Samara
Kieff	Saratoff
Moscow	Varsovie
Poltava	

Spain.

Barcelona (F. Arenas, Plaza Regomi, 5)	*Cadiz
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Switzerland.

Geneva (E. Baud, Rue Ver- daine, 11)	Montreux (Mons. E. Frau- sioli)
Geneva (Philippe J. Cour de Rive, 11)	Zurich (R. Ganz)

The following hotels also place dark-rooms at the disposal of guests:—

Hotel Bains et Grande des Salines, Bex	M. E. Michel, Vevey, cant. de Vaud
Hotel Beau-Rivage, directr. M. J. Maurer, Interlaken, cant. de Berne	Grand Hotel du Lac, directr. J. Tappert, Vevey, cant. de Vaud
Hotel d'Angleterre, directr. M. C. Demmer, Davos-Platz, cant. des Grisons	Hotel Pension du Panorama, directr. M. N. Blotnitzki, Vevey, cant. de Vaud
Grand Hotel des Bains, directr. M. C. Hiele, Bex, cant. de Vaud	Hotel du Grand Muveran, directr. M. A. Petter Genil- lard, Villars s/Ollon, cant. de Vaud
Hotel du Chamossaire, directr. M. H. Amiguet, Chésièrès, s/Ollon, cant. de Vaud	Hotel du Château de Laufen, directr. M. C. Wolter-Witzig, cant. de Zurich
Hotel des Alpes et Grand Hotel, directr. M. Ami Ches- sex, Territet, cant. de Vaud	Hotel Freienhof, directr. M. G.-R. Engemann, Thoune, cant. de Berne
Grand Hotel de Vevey, directr.	

Turkey.

Smyrna

Holiday Resorts and Photographic Haunts.

A FORTNIGHT IN SWITZERLAND.

By F. W. ROTHWELL.

LEAVING Victoria, we soon reached Newhaven, where we took boat for Dieppe, and then train to Rouen. We stayed at the latter place Sunday and part of Monday; obtaining views of the Cathedral, where the first Duke of Normandy, Richard Cœur de Lion, and his brother, along with several other historical persons, are buried. The original spire was struck by lightning early in the present century, and was replaced by the present one in 1823. We then visited the Place de la Pucelle, where Joan of Arc was burned, and the Palais de Justice, where she was condemned. The Church of St. Ouen and Place de la République next claimed attention, and afterwards the river. We left Rouen, and arrived the same evening at Paris, where about ten days were spent in visiting the Exhibition and the usual places of interest.

Taking the sleeping-car attached to the seven o'clock train, Gare de Lyon, we got to Geneva the next morning.

Geneva is divided into two divisions, almost north and south, by the swift waters of the Rhone, which here rushes from the lake.

The river is spanned by several bridges, the chief being the Pont du Mont Blanc. From the Quai du Mont Blanc, superb views of the Alps with Mont Blanc and the near mountains are seen. A few plates were exposed upon the lake, the boats, and steamers. Afterwards the National Monument and the Duke of Brunswick's monument were photographed.

Taking the boat next morning, we went to Lausanne, and then on to Berne. This place affords numerous subjects for the camera, and from the Munster Platz, a fine terrace overshadowed by trees, and at an elevation of 110 feet above the River Aar, which almost encircles the town, grand views of the Oberland Alps are obtained. The snow-capped heights of the Wetterhorn, Schreckhorn, Jungfrau, and numerous other mountains appear in majestic range bounding the south-eastern landscape, and which at sun-set, in fine weather, are enshrouded with thin clouds, flushing into roseate, and gradually changing into purple hue as the light fades in the evening sky. Leaving there, we visited the Munster, in front of which is a fine equestrian statue of Rudolph von Erlach. Driving to the other end of the town, we saw the Bear Garden, where several bears are kept at the public expense, and then over the bridge. Near this place a good view of the city was obtained.

Traversing the Kramgrasse, we came at length to the Clock, which has several mechanical movements. In Berne there are some curious fountains, one near the Clock-tower in the Kornhaus Platz being noteworthy. It is named "The Fountain of the Ogre," and bears the figure of an ogre devouring a small boy, whilst other children are thrust in his girdle and pockets. After dinner we had a walk through the streets. The houses are principally built on arcades, similar to the rows of Chester, whilst underneath there is a promenade for the foot passengers.

On the day following, Saturday, we left Berne by train to Thun, near to the lake of that name, and on the journey we saw a portion of the army reviewing.

At the east end of the lake, the cliff of the Beatenberg, and the cavern of St. Beatus (the first Christian preacher of the district) are seen, along with glimpses of the Jungfrau and other mountains.

Taking the Bodeli Railway, in ten minutes we arrive at Interlaken. Interlaken is a considerable summer resort, as it forms the centre for various Oberland excursions. Ascent of the Kleine Rugen (2,420 feet), Schynige Platte (6,790 feet), and several other journeys are made from here.

The Jungfrau is seen in all its majesty from the Hohewigg, a fine promenade shaded by splendid walnut trees. There is English Church service at the Convent Church. The hotels are numerous; indeed, as we stood in the station, I counted twenty-three "busses" waiting to take passengers to their respective hotels.

Leaving Interlaken, another ten minutes' run brings us to the lake of Brienza, and as we sail down the lake, we "shot" at the lower fall of the Giessbach. The snowy summit of the distant Susten is seen in the south-east, and the Thierberge to the right.

FALLOWFIELD'S CENTRAL PHOTOGRAPHIC STORES, CHARING CROSS.—We are asked to notify that these "Stores" will be opened on July 1st. Mr. Fallowfield is so well known in business, having been established for thirty-four years at Lower Marsh, Lambeth, that it goes without saying that at these "Stores" everything that is requisite for the work of photography will be found.

* Towns marked thus come under the AMATEUR PHOTOGRAPHER Register, as the gentlemen residing there are amateurs, to whom an introduction is necessary.

Taking train from Brienz, we go to Meringen, where the engine is changed, the scenery during this short journey not being anything particular, as the valley is as level as the floor of any room, though bounded on each side by the mountains, and traversed by the river Aare, which carries along with it the waters of the glaciers and of the smaller streams from the hills.

From Meringen, we ascend by means of the cog-wheel railway, similar to that of the Righi, to Brunig, the summit of the Brunig Pass, 3,295 feet high. The traveller as he sits in the carriage little thinks of the work employed in constructing the railway, of the difficulties encountered, and the danger. He should have been here whilst this portion of the line was being made, and have seen how, when a charge of dynamite was exploded, the fragments of rock were hurled upwards to an enormous height, and then whizzing down through the fir trees, buried themselves deep in the earth. As we rise, we catch a glimpse of the village of Brunigen, lying below us in the valley. The rocky mountain has been carved by the dynamite into all kinds of fantastical shapes, now presenting isolated crags towering high above us, now projecting rocks hanging over us like half-demolished arches. Then there is the view of the numerous gorges and snow-capped heights.

At Brunig station there is a good restaurant, and as we had about forty-five minutes to wait for the train coming up the other side of the pass (there being only one line), we spent the time in exposing one or two plates. Leaving here, the line descends rather sharply for a time down the other side of the pass to Lungern, at a gradient of 1 in 10.

Afterwards we pass the Lake of Sarnen, and hurry on to Kerns, and then to Alpnachstad, where a portion of the travellers take boat to Lucerne. We, however, stay in the train, and after running alongside the lake for a time, the line takes a sudden turn, under the Lopperberg, and then along the shore again to Horw, where we cut across country to Lucerne.

A good view of this town was obtained from the station, Mount Pilatus in the rear; whilst across the lake the Rigi looked quite majestic in the gathering gloom, with its top covered with dark clouds, which were creeping down its sides; and opposite was the town with its four bridges spanning the dark waters of the Reuss. The Kappelbrücke, the oldest of the bridges, is garnished with seventy-seven curious triangular paintings, of the ecclesiastical and secular history of the Swiss Confederation. It dates from the 14th century.

The Mühlenbrücke, the second covered bridge, is more than 300 years old, and is ornamented with thirty-four quaint pictures of the "Dance of Death," referred to in Longfellow's "Golden Legend"—

"All that go to and fro must look upon it,
Mindful of what they shall be."

The Lion Monument, to commemorate the heroism of the Swiss Guards in 1872 in defending the Tuileries, was photographed the next day. The Righi, Mount Pilatus, and several views of the town were taken also.

Tuesday we sailed down to Flueln, at the other end of the lake. This trip is called by Mark Twain, I believe, "The perfection of pleasuring."

As the steamer enters the Lake of Uri, the mountains rise to enormous heights on both sides, and in the distance a glacier can be seen. The plateau of Rutli, 650 feet above the lake, is the scene of the memorable gathering of the Swiss, who swore to maintain their independence against the Austrians in 1307, whilst a little further on is Tell's Chapel and Tell's Platte, which is the traditional point where Tell escaped from Gessler. All three places are now, I believe, public property.

The Meytensstein on the west, 80 feet high and rising perpendicularly out of the water, bears Schiller's name upon its face.

We obtained shots of Vitznau, where the Rigi Railway commences, Weggis, Brunnen, and views of the gorgeous mountain scenery of the lake. This day was about the most enjoyable one we spent, as the scenery was magnificent.

We left the steamer at Flueln, and came home by rail round by the Righi and Lake of Zug.

Zurich was next visited, and some good pictures were obtained of the streets and lake.

From Zurich we went to Basel, seeing the Munster, Rathaus (Town Hall), Museum, and the Monument of St. Jacob, in remembrance of the Swiss who fell resisting the French in the 15th century. On the pedestal of the monument are four sculptured warriors "faithful to death;" while the armour-clad

figure of Helvetia stands above, extending the memorial wreath.

We left Basel for home at 9 o'clock in the evening, and when we got to Delle were all turned out to have our baggage examined, at midnight exactly. It was a dreary job this, half asleep, and then out you get into the cold, and then you stand like a lot of sheep in a long room, while they look whether you have any "tabac, sègars," etc. Go in at one door and out at the other end of the room. Just time for a cup of coffee, and off you are until 9 o'clock in the morning, when you have eighteen minutes at Amiens for breakfast, a cup of coffee, and a roll of bread, for which they charge you a franc (10d.).

We arrived at Calais at noon, and by 5 or 6 o'clock were safe in London (Charing Cross).

As to the customs and our plates, we had no trouble, as, thanks to a label sent me by the Editors of this paper, they experienced no curiosity whatever as to the contents of the "black bag."

Indeed, it was never opened until we arrived at Delle. At Dover they were very anxious to look at everything in our handbags. My plates were changed at most places by means of a small travelling lamp, with some red material and a night-light. I lowered the blinds, and once or twice got under the bed, and at Berne I got into a large cupboard there was in my room.

At Rouen and Lucerne I changed them at a photograph shop, where they charged me fifty centimes (5d.). I did not develop any whilst away, as I did not care to carry the utensils with me.

Iford plates can be obtained in Zurich, whilst several English makes are sold at Nadar's, Rue des Capucines, Paris.

I got some French ones at the latter place cut to English size, for which I paid 4 f. 50 c. (about 3s. 7d.) My camera was a half-plate one, with three double-backs, and Laverne's lens. Altogether we had a splendid holiday.

We had only about three days of rain during the two weeks we were away. One at Paris, one at Lucerne, and the other at Zurich, where it rained almost incessantly the whole afternoon, and which time we spent in the billiard and reading rooms of the hotel.

For a few pence you can get a lad to carry your bag, whilst you take it easy and look for the views, and the porter comes in handy to infuse a little life into some of the pictures. I know mine did. Driving is not so dear as it is in England, which is a fortunate circumstance, as there are several nice places on the outskirts of most of the towns, and you can be driven to the principal sights by merely giving a few directions to the driver.

If you don't understand the language, you can call the porter of the hotel—who, at the first-class hotels, generally speaks English—and he will give the necessary instructions.

In conclusion, I don't know where you can find a prettier place than Switzerland for a few weeks, as there are innumerable subjects for the camera. Have a good shutter with you and plenty of plates or films; the latter preferable; and also have some loose coppers for "pourboires" or "tips," if you don't wish to lose the natives' esteem, and I can say that the more you give them the greater you are, and a liberal "tip" will make them believe you "an English milord" or some other important personage.

* * * * *

THE CITY OF YORK.

By O. E. RUCK.

WITH the exception of such well-known and tried places as our university towns and the quaint and ancient Chester, few places offer such a rich field for the study of photography applied to old buildings, churches, and gateways as does this glorious old city. Not only does this city itself teem with antiquities of all ages from the time of the Roman occupation in A.D. 79 onwards, but within easy travelling distance by railway or cycle the numerous old priories, abbeys, castles, and crosses offer an almost unlimited scope for the camera. Accommodation and good wholesome fare are easily and cheaply procurable at all times in the city, railway excursions take the visitor rapidly at easy rates to places of interest in the neighbourhood during the summer and autumn months, whilst the number of rainy days compared with less favoured localities are few and far between. Without dwelling too long on the opportunities offered by the minster for interior studies, general views from all sides of the city, with the cathedral standing out in bold relief, may be taken, generally with old walls, picturesque houses, the river Ouse and its barges, or some ancient landmark as a foreground. Glimpses of the minster, viewed from some of the antiquated streets, such as Old

Stonegate, Petergate, Swinegate, make characteristic pictures. The walls and bars form special features of the city, and all offer great inducements for the photographer. Chief amongst these are Micklegate Bar, erected about 1300, consisting of a square tower built over a circular arch with embattled turrets at the angles, surmounted by stone figures; the arms of England and France, quartered, and containing those of the City of York, are sculptured upon shields against the front, with inscriptions. Equally interesting for photographic purposes are Bootham Bar, Monk Bar, Walmgate Bar with barbican, Fishergate with its postern. Amongst the churches which, although not of great size, are nearly all possessed of architectural peculiarities, the following present subjects which the photographer with an architectural bent will find acceptable:—St. Michael-le-Belfry, finished about 1536, with a bell-cot on the west gable, and buttresses pierced by gurgoyles. St. Margaret's, Walmgate, with its rich Norman porch and doorway, a grand subject; round the arch of the doorway are the twelve signs of the zodiac, and between the signs are small groups of figures in panels representing some characteristic emblem for each month. St. Lawrence has a similar enriched Norman doorway. All Saints, North Street, St. Martin's, Coney Street, St. Mary, Bishophill, the younger, with Saxon work in the tower; St. Martin's, Micklegate, with Roman work in the West Wall, are all interesting for the photographer. Amongst the ruins of old abbeys, foremost amongst the many subjects is that of St. Mary's, in the City of York; whilst Byland, Rievaulx, Jervaulx, Whitby, Fountains are within easy reach. The Priors of Guisborough, Rosedale, Malton, Kirkham, Bridlington, Kirkstall, Monk Bretton, Bolton, and Mount Grace are some of the monastic remains well worth studying. The remains of St. Leonard's Hospital, York, and St. Anthony's Hall, York, are objects to be recorded by the camera. Clifford's Tower, York, built by the Conqueror 1068, as a keep or citadel for the fortress, situated on a mound elevated above the river, makes a good picture taken from the city walls, across the Ouse, with old walls, river, and boats for foreground and middle distance. The same may be said of the Archbishop's Palace at Bishophthorpe, a semi-pastoral picture. The numerous ruins of castles, isolated old street dwellings, sculptures of coats of arms, and various relics of a bygone age would, if enumerated, take up so much space that it is deemed sufficient matter for study has already been given to show what facilities exist in York for any amount of good work with the camera.

Societies' Meetings.

NOTE.—In this column the Editor can, of necessity, only give a brief summary of the proceedings. The PHOTOGRAPHIC SOCIETIES' REPORTER was established to report the transactions of Societies, and the Editor will be glad to receive reports for insertion as early as possible after the meetings have been held, and at the latest before the 24th of each month.

BIRMINGHAM PHOT. SOC.:—The first half-day excursion of the season to Coventry was not patronised by members on Saturday last as was expected. One of the objects of society excursions is for members to help one another in the field—especially beginners—and surprise was expressed that so few new members took part in what turned out to be a very enjoyable afternoon. The next excursion is fixed for July 12th to Stratford-on-Avon and the Shakespearean villages, and will be for a whole day, with Mr. W. J. Harrison, F.G.S., as leader.

BRIXTON AND CLAPHAM CAMERA CLUB.—On Saturday, the 14th inst., a party proceeded by train to Leatherhead in search of the picturesque. Although the weather was not very promising, the outing proved a most enjoyable one. Some choice subjects were discovered, and it is intended to pay another visit of investigation, as the neighbourhood appears to afford many opportunities to the "shadow-catcher."

CAMBRIDGE CAMERA CLUB.—A monthly meeting was held at the club-rooms, Jesus Lane, Mr. Dennis Greenwood in the chair. Some platinotypes were shown by Mr. C. Smerdon Roe, which were very much admired. The exhibits of Messrs. Hayles, Potts, Sanderson, and others came in for a like share of praise. Several discussions took place. An outing was made by several members on Thursday in last week to Granchester. The village was reached

by boat. Many pretty spots on the banks and in the village were taken.

CROYDON CAMERA CLUB.—On Saturday, 21st inst., the President conducted a party of members to "The Grange," Wallington, which was kindly placed at the disposal of the society by the owner, Mr. A. H. Smee. Altogether a most interesting afternoon was spent, the only regret being that time did not permit of more careful inspection of the many floral and natural beauties with which the gardens are so richly endowed.

FAVERSHAM INST. PHOT. SOC.:—The second meeting was held at the Institute, on June 17th; Mr. W. C. Stunt, Vice-President, in the chair. It was decided that the society's next out-door excursion should take place on Thursday, 26th inst., to Lees Court (if permission be obtained). The offer of the AMATEUR PHOTOGRAPHER Bronze Medal for the best work done on the excursion was accepted with thanks. A vote of thanks was also passed for the loan of some of their Competition Prints, which were much appreciated. It was decided that the next meeting (July 15th) should be devoted to a show of apparatus in the possession of the members, and a discussion thereon. The Chairman then called upon Dr. Evers to give his paper and demonstration on development, which were well received and followed by a short discussion.

HOLBORN CAMERA CLUB.—On Friday, June 20th, Mr. Luxton gave a lecture on "Lighting the Subject in Portraiture," and passed round examples showing the difference which could be made in the appearance of a face by suitable lighting. On the 23rd seven members went by train to St. Albans, and then walked to London-Colney, where several exceedingly pretty bits were found; after dinner going on by trap to Radlett and Brickett Wood. Forty-two plates were exposed, and a most enjoyable time spent.

LEWISHAM HIGH ROAD CAMERA CLUB.—A meeting was held, June 20th, at the Lecture Hall, Lewisham High Road; Mr. M. Stodart in the chair. Mr. R. W. James exhibited an enlargement on Ilford bromide paper of Westerham church porch. The original was taken on a Thomas' cyclists' plate, with Swift's quarter-plate lens, by Mr. Stodart and enlarged by Mr. James. Both the print on Aristotype paper from the quarter-plate negative to the enlargement showed high-class workmanship, and a vote of thanks was given to Mr. James for the trouble he had taken. Messrs. Stodart and Eastwood exhibited the results of their experiments with regard to fixing in actinic light, the result being that it was proved beyond doubt that fixing by gaslight or daylight would not possibly injure negatives. The plates shown had for the most part undergone very severe tests, being exposed about one and a half hours to sunlight before fixing, and it is doubtful whether the plates would have shown even the slight amount of veiling had they undergone a more complete amount of washing before exposure to sunlight. The question box produced seven queries, which were answered and discussed. The next meeting is to take place July 4th, when Mr. M. Stodart will give a practical demonstration of the development of negatives.

LIVERPOOL AM. PHOT. ASSOC.:—The sixth ordinary meeting of the twenty-seventh session was held at the Association's Club-rooms, 3, Lord Street, on Thursday evening, the 19th June. Mr. Paul Lange presided, and there was a numerous attendance of members. The President reported on the excursion to Rossett and Gresford on Saturday, the 7th inst., when about thirty members and six ladies were present, and 200 pictures were secured. He mentioned that the next excursion would take place on Saturday, the 19th July (whole day), to Bolton Abbey, with Mr. C. W. Reader as leader. A very fine mounted print was presented to the society by Mr. Friese Greene, of London, per Mr. J. Norman Thomas, of the Convention members' group of 1889, taken on 24 by 20 glass plate slightly cut down. The late Mr. J. W. Robinson, jun., a young member of the society who died last month, had bequeathed his camera and outfit to the Association, for use of any of the members of the society. Mr. Beaton (J. J. Atkinson's) then exhibited Fallowfield's Facile camera. The evening concluded with a demonstration and detailed explanation of the new Kodak camera No. 4, 5 by 4, of the Eastman Company. Mr. H. M. Smith was the demonstrator, and, on the motion of Col. Ellison, a hearty vote of thanks was accorded him.

NORTH LONDON PHOT. SOC.:—The ordinary meeting was held on the 17th inst., Mr. Dando in the chair. This was a technical

evening, and the last meeting of the Society in Myddelton Hall. Various appliances having been shown, an interesting discussion took place upon development. The next meeting of the Society will be upon the evening of July 3rd, in the Wellington Hall, behind the Myddelton Hall, when there will be a discussion upon "Lenses and their Uses." The Secretary will open the discussion with a paper on "Photographic Optics."

SHEFFIELD AND DISTRICT OPTICAL LANTERN SOC.—The usual monthly meeting of the above Society was held in the St. Paul's School-room, on Wednesday the 18th inst., Mr. H. Staniforth presiding, the subject of the evening being "Enlargements by the aid of the Lantern." Mr. F. Mottershaw read a carefully prepared paper, which was practically illustrated by experiments on Ilford bromide paper, with one of Lancaster's enlarging lanterns, and was listened to with great interest by a large number of members. Negatives produced at the last excursion were handed round. Arrangements were then made for an excursion to Roche Abbey on July 3rd. The proceedings closed with a hearty vote of thanks to Mr. Mottershaw for his kindly efforts.

TOYNBEE CAMERA CLUB.—The ordinary meeting was held on

June 17th. Enlargements from members' own negatives were exhibited. On June 21st there was an outing to Coulsdon, Chaldon, and Merstham in conjunction with the East London Antiquarian Society. Although the weather was dull, a number of views were obtained of Chaldon and Merstham churches and the surrounding scenery.

WOOLWICH AND DISTRICT PHOT. SOC.—On Saturday the 21st the members held their monthly outdoor meeting at Eltham. By 4 o'clock twelve cameras were at the rendezvous, and a start was then made for King John's Palace. There Mr. Calder took a 12 by 10 of the meeting, with the ruins for a background—having sent on his large camera beforehand for the purpose. Several negatives of the ruins were taken, and the members dispersed in threes and fours to the various spots of interest in the neighbourhood. A visit was paid to Colonel North's famous duck-pond, and snap shots were taken of the pretty white ducks and swans which abound there. The rain coming on smartly, there was a hurried retreat beaten back to Woolwich, but notwithstanding a most enjoyable afternoon had been spent. The next indoor meeting will be held in the Freemasons' Hall on Wednesday, July 9th, at 8 p.m.

To Correspondents.

THE insertion of **QUERIES** and **ANSWERS** is attended with much labour, and it is requested that the questions asked and the answers given shall be short and to the point. No charge is made.

All communications for these columns are to be addressed to **The Editor, "Amateur Photographer," 1, Creed Lane, Ludgate Hill, London, E.C.**

RULES.

1. Write clearly and distinctly on one side of the paper only.
2. Write each Query or Answer on a separate sheet of paper.
3. Write the name and address legibly on the back of each communication, and sign all Queries and Answers with name or *nom de plume*.
4. All matters for these columns **MUST** be received by **TUESDAY MORNING'S POST**.
5. The Editor does not undertake to answer questions by post.
6. In answering Queries, correspondents are requested to mention, in every instance, the *number and full title of the query* referred to.

QUERIES.

3930. **Hydroquinone.**—I have lately been using Thomas' formula, but cannot obtain density. Formula states, use equal parts of each. I find this too strong, so dilute with half of water. My negatives are thin, and I have to trust to intensification. What quantities should I use for under or over exposed plates? I use Ilford plates. Any hints will oblige.—**M. GINTY.**

3931. **Books on Photography.**—I want to study the art of photography, and should be glad of the advice of those who know which is the best book on the subject. It must not be too technical, but sufficient to give a clear idea to a beginner why such and such results are produced by such and such causes, etc. Also I should like to know of a simple hand-book on retouching?—**EUREKA.**

3932. **Vignetting.**—Would some one kindly tell me how the shaded part just round the head in vignette portraits is done? I have made a photograph of a head, but the background, an ugly wall, looks very bad. If I block this out, how must I replace it with a suitable background?—**EUREKA.**

3933. **Nitrate of Silver.**—I should feel grateful for directions how to prepare nitrate of silver (for silver bath for paper) from ordinary alloyed silver, and how to purify the product from the salts of the alloy?—**ELECTRA.**

3934. **Haddon Hall and Chatsworth.**—Is permission required to photograph either of these places, especially interiors? If so, from whom obtained?—**J. G. PATTERSON.**

3935. **South African Tour.**—Correspondent, who is about to enter upon a lengthy tour in the South African colonies, will be very grateful to any reader of the **AMATEUR PHOTOGRAPHER** for hints and in-

formation which is likely to prove useful. Correspondent is *particularly anxious* to know the names and addresses of persons in South Africa who sell dry plates and photographic accessories? Correspondent intends taking a complete outfit, and will develop and print as he goes along. At times he will probably be miles and miles away from civilisation. For a dark-room, correspondent thought of taking one of Messrs. Perken, Son, and Rayment's Eclipse ruby tents. Would it be advisable (taking into consideration how correspondent will be placed) to develop plates with ferrous oxalate or alkaline pyrogallol? Lastly, should ready-sensitised albumenised paper be carried? Will it keep for several weeks in the South African climate?—**SEMPER PARATUS.**

3936. **Interiors, Development of Negative.**—How should I modify my (pyro ammoni.) developer so as to bring out detail in the shadows without too great density of the high lights? I have been trying my hand at photographing a drawing-room, in which are statuettes and other well lit up ornaments, but there are also dark nooks and corners. I use Ilford ordinary plates.—**H. E. G.**

3937. **Gelatino-Chloride Paper.**—Seeing in **AMATEUR PHOTOGRAPHER** of May 30th, 1890, that a paper called "Chloro-citro gelatine emulsion process" (an imitation of which is Aristotype) is still sold, and produces beautiful results as a printing-out paper, can any reader oblige me by telling me how to get it, the price, and proper title? The exorbitant price of Aristotype forbids trying that paper.—**GELATINO-CHLORIDE.**

3938. **Lynton and Lynmouth.**—Can plates be had there? An answer will oblige.—**GUNSTON.**

3939. **Keswick.**—Can any reader tell me whether Ilford plates can be obtained in Keswick?—**J. C.**

3940. **Llandudno.**—I am anticipating making this place my headquarters for a fortnight, commencing July 5th. I shall be pleased to make the acquaintance of some amateur.—**BILSON.**

3941. **Ipswich.**—Can anyone tell me of places of interest in Ipswich or near there, as I am visiting there?—**CAPTAIN CUTTLE.**

3942. **Enlarging Camera.**—Will anyone kindly give me their experience with Lancaster's Multum-in-parvo enlarging camera? Does one camera only enlarge to one size?—**G. H.**

3943. **Self-Cocking Shutter.**—Is there a self-cocking instantaneous shutter in the market? If so, would like to know particulars. Any information would greatly oblige.—**NOX.**

3944. **Enamelling Prints.**—I cannot get a good surface on my prints after squeegeeing on talced glass. Am very careful that contact is perfect with no bubbles, yet when peeled off glass nearly all have a lot of small spots on. I also find that the few perfect ones, when mounted in the ordinary way, lose all their gloss. How can I remedy?—**GEOR. J. GREEN.**

3945. **Removal of Film from Negatives.**—I shall be much obliged if someone will kindly tell me the best way to remove the film from old negatives?—**W. HALL.**

3946. **Speed of Kershaw Shutter.**—What is the speed of the above shutter when working at its slowest without a card? Also the increase of speed for every couple of turns of the spring? And what is its speed with a lady's visiting card in the slot?—**W. HALL.**

QUERIES UNANSWERED.

April 4th.—Nos. 3661, 3664, 3674, 3677.

18th.—No. 3718.

25th.—Nos. 3727, 3742, 3744, 3747.

May 2nd.—Nos. 3758.

16th.—Nos. 3820, 3822, 3824, 3826.

23rd.—Nos. 3827, 3828, 3829, 3834, 3839, 3840, 3843.

30th.—Nos. 3857, 3858, 3860, 3862, 3865.

June 6th.—Nos. 3878, 3883, 3884.

13th.—Nos. 3885, 3886, 3890, 3894, 3895, 3896, 3899, 3901, 3909, 3910, 3911.

20th.—Nos. 3912, 3913, 3914, 3915, 3917, 3918, 3920, 3921, 3922, 3923, 3924, 3925, 3928, 3927, 3928, 3929.

ANSWERS.

3551. **Tricycle House.**—Made moveable. Apply, Goy's, Leadenhall Street, but not room for photographic work. You will have to construct one to suit both purposes.—**T. S. MAYNE.**

3554. **Featherweight Slides.**—Apply to H. Fry and Co.; they will send you price list.—**T. S. MAYNE.**

3556. **Lancaster's Combination Lens.**—Is very good value, and works properly.—**T. S. MAYNE.**

3587. **Veyer's Burnisher.**—Write maker. Send specimen of what you have spoiled. Enclose stamp for reply.—**T. S. MAYNE.**

3593. **Gelatine Mountant.**—Get one from Hinton, Bedford Street; always ready for use.—**T. S. MAYNE.**

3612. **Forrest's Duo Ratio Shutter.**—No vibration, so far as I can see. If any, it is after the exposure is complete.—**T. S. MAYNE.**

3640. **Changing Arrangement.**—Fear you must put up with double backs if you cannot see your way to use sheaths. The only other arrangement I have seen is the subject of a patent.—**T. S. MAYNE.**

3653. **Masham, in Yorkshire.**—Enquire at local chemists, but would advise waiting your return home for development.—**T. S. MAYNE.**

3694. **Aristotype.**—Advise using the *white* paper. Wash a little more between toning and fixing, which I prefer to the combined bath.—**T. S. MAYNE.**

3731. **Large Kodaks.**—The 5 by 4 is a good size, two finders fitted. Made to hold sixty, called the Junior, and also to hold 100. The celluloid films are now much better than the first consignment. But where glass is practicable would give it preference for enlarging purposes.—**T. S. MAYNE.**

3735. **Tour in Normandy.**—Write with stamped envelope to Mr. W. Tomkinson, Silverdale, Victoria Park, Liverpool.—**T. S. MAYNE.**

3733. **Xylonite Films.**—J. J. Atkinson, Manchester Street, Liverpool.—**T. S. MAYNE.**

3767. **Lamp.**—Lancaster's are makers.—**T. S. MAYNE.**

3795. **Switzerland.**—Stop *f/11* and shutter, *f/16*, or 22, with cap off and on.—**T. S. MAYNE.**

3808. **Norway.**—Although hotel keepers are willing to help, to be quite independent and certain, better take one of Perken's folding tents. You can resell it when you come back, cost 25s. Have wooden cases made to each hold half a gross, that is six of the boxes. Repack face to face, and bind with lantern strips, two sides, to keep firm. May be a little troublesome, but it is perfect. Then repack in the dozen boxes, as in original state.—**T. S. MAYNE.**

3916. **Toning Bath.**—Print deeply, and immerse, *without washing*, into the following bath, which may be used at once, and will keep fairly well:—

Hypo	...	...	240 grs.
Sulphocyanide of ammonium	...	...	50 "
Acetate of soda	...	...	15 "
Chloride of gold	...	...	2 "
Water	...	...	3 ozs.

Prints will first turn a sickly yellow, but will gradually assume a brown tone, then purple, and, finally, warm black. Rinse, and give five minutes in a five per cent. solution of alum, then wash well as

usual. As may be seen, the above tones and fixas at the same time.—S. O. B. GENOA.

3919. **Surrey.**—Wimbledon Common, especially on N.W. side, offers plenty of work for the camera. Putney Park Lane makes a good picture. I think you may take photographs in Richmond Park. Cannot say as to Hampton Court. The Thames from Kew Bridge upwards will also supply some pleasing pictures.—H. STROGE.

EDITORIAL.

SPECIAL NOTICE.—We are very pleased to find that replies in this column are so much appreciated, but we should be very grateful if those requiring advice would send their letters to us BEFORE TUESDAY MORNING'S post if possible. The time occupied in replying in this column is very considerable, and owing to the often late receipt of letters, many matters have to be left over each week. This we much regret.—ED. AM. PHOT.

J. W. P. GIBSON.—(1) The lens cannot be surpassed. (2) We know practically nothing of the cameras, except that the firm are held in high repute. (3) This particular tripod has never come under our notice. (4) We do not advise as to "good" or "best" anything. See rule at head of this column.

H. THOMPSON.—Will be used in due course.

H. ST. G. SMYTHE.—We are glad to have your testimony of the plates. They have proved admirable in our hands.

A. SHIRLEY.—We will consider your suggestion.

THOMAS PATTERSON.—The bath would naturally give brown tones; try carbonate or phosphate of soda. Prints should be toned beyond the point desired, to allow for fading in fixing. The plates all good, but perhaps B, F, O, and the rest anyhow; C perhaps quickest; all very quick. No. 1 too near; No. 2, over-exposed, and badly selected position for the camera; No. 3, flat from want of contrast, probably due to over-exposure; No. 4, fair; No. 5, over-exposed; No. 6, very good.

W. R.—Generally the prints are good. No. 4 is the best, but is spoilt by too much foreground; two inches cut off the long path would make a picture of it. No. 5 is good, but there is too much density and lack of detail in the deeper shadows. No. 1, spoilt by over-printing. No. 3, under-printed. No. 2, somewhat out of focus. You have done well in the short time you have been at photography.

THOS. WINDLE.—In answer to your first query we should advise No. 3; your second, No. 2; your third, No. 3. Clear thoroughly. Major Nut is correct.

W. H. WRIGHT.—Duly noted.

PHOTO-ARTISTS' BON MARCHE.—Many thanks; will try the plates next week.

CARLIDA.—From work that we have seen done with the lens we have no hesitation in advising you to buy it.

WINCHESTER.—Depends upon the rapidity of plates and shutter.

HENRY CUNLIFFE.—(1) "Retouching Negatives, etc." (Johnson), 2s. 3d. post free from our publishers. (2 and 3) See our rules. (4) Have seen very good work done with it. (5) Alum. (6 and 7) Aspinall's enamel. (8) Without seeing the camera and lens it is impossible to say, but should think it very unlikely.

H. PRESS.—For beginners' work they are really very fair. Entry form shall be sent.

S. W.—We should prefer No. 2.

M. H. WALTERS.—B or D, and consult the makers when ordering, telling them for what special purpose you require the lens.

THOS. T. MATTHEWS.—You should be able at f/11, and with a drop shutter, to secure the pictures you desire. We have handed your letter to our publishers.

A. B.—We should not advise the use of sugar for mountant. See Wall's "Dictionary of Photography." H. O. SARD.—We know nothing of the camera at £3 10s. Both Nos. 2 and 3 are worth buying, and you can do all you desire with either. We consider No. 3 the best made and most serviceable.

Iquosco.—A is certainly not as good a lens as B. We should advise you to have the B lens and C camera.

BOYA-FIDE.—Your letter is rather too plain speaking. In dealing with the question of buyer and seller we wish for moderation on both sides.

A. V. HEANLEY.—They are called ferrotypes, and full particulars as to how they are produced will be found in "Photographic Chemistry" (Hardwick) or "Manual of Wet Process" (Jabez Hughes).

INSTANS.—(1) Quite. (2) A are very good plates; b, we have had no experience with them.

Q. R.—The prints on Scholzig's paper are very good and brilliant.

J. M. BUTLER.—It is the best at the price we have seen; you must decide whether to purchase or not.

E. G. D.—Will read MS. and, if suitable, publish same, advising you of date, etc.

L. R.—The camera should be held perfectly level, or put upon a table when changing, and the plate will fall of itself. We are glad to hear such high testimony of the courtesy of the makers.

Sale and Exchange.

RULES.—Fourpence for twelve words or less, and a penny for every additional three words, must be enclosed with each advertisement, together with the name and address of the sender, which must be paid for, and sent to Hazell, Watson, and Viney, Ltd., 1, Creed Lane, Ludgate Hill. Halfpenny stamps preferred. A single figure, or group of figures undivided by letter, space, stop, or two dots, counts as one word; compound words count as two words.

REPORTING UPON APPARATUS.—The Editor of the AMATEUR PHOTOGRAPHER will be pleased to report, to any intending purchaser, upon apparatus, etc., offered for sale in the "Sale and Exchange" column, provided such apparatus, etc., is forwarded by the seller to him to the offices of the AMATEUR PHOTOGRAPHER, 1, CREED LANE, LUDGATE HILL, LONDON, E.C., free of charge. The intending buyer to pay fee equivalent to a commission of 2½ per cent., the minimum being one shilling, upon the sale price of the apparatus, etc. The publishers will undertake the packing and sending of all goods at the cost of the seller. As far as possible, the Editor will undertake to send a report within TWO DAYS of receipt of goods.

DEPOSITS.

Deposits for goods to be forwarded on approval may be made with our Publishers, who will hold the amounts deposited until they are satisfied that the transaction has been executed to the satisfaction of both parties. Cheques and Post Office Orders should be made payable to Hazell, Watson, and Viney, Ltd. A nominal charge of 1s. is made whether a sale is effected or not.

Advertisements can be inserted under a number, the name and address being registered, and letters forwarded for a fee of 6d. to cover postage.

N.B.—Trade Advertisements cannot, under any circumstances, be inserted in this column. Such advertisements can be inserted elsewhere at the Trade Scale, which may be obtained on application to Parry and Crawford, 1, Creed Lane, Ludgate Hill, London, E.C.

"Amateur Photographer."—AMATEUR PHOTOGRAPHER, from commencement to present date, 11 vols., complete and perfect, two first vols. bound half roan; £2.—3, Waipole Street, Wolverhampton.

"Amateur Photographer," etc.—Last five vols. AMATEUR PHOTOGRAPHER, vol. 1. "Photography," several Year Books, 6s. lot; would exchange quarter leather camera case.—G. Cutmore, 99, Barnsbury Road, Islington.

Apparatus.—Camera case, waterproof, stiff leather bound, 8s. 6d.; solid leather, 14s. 6d.; good locks, straps; approval; 6 stamps. — 1, Hermitage Mews, Stamford Hill, N.

Bicycle.—Exchange my 52 in. Rudge bicycle, with balls both wheels, for a complete photographic outfit and background.—927, Ashton Road, Fairfield.

Cameras, etc.—Half-plate camera, three double backs, rectilinear lens, stops, solid leather case, perfect condition; cost £3 10s.; take £5.—Knight, 13, Albion Street, Leeds.

Lancaster's quarter-plate Instantograph, square leather bellows, six double dark-slides, book form; 25s.—106, Croydon Road, Newcastle-on-Tyne.

Stereoscopic camera, 6½ by 3½, of best construction, rack and pinion focussing, folding tailboard, which protects hinged focussing screen, rise and fall front, bellows partition, six double dark-slides, all fitted in waterproof canvas case with sling strap, all as new; approval; deposit; price £4 10s.—Windlehurst, Cambridge Road, Churchtown, Southport.

Cameras Lenses, etc.—Complete Optimus long-focus patent camera, half-plate Buryascope and wide-angle lenses, two shutters, three mahogany backs, and six metal slides, tripod, solid leather case, all goods as new; what offers?—Walker, Laurencetown, Co. Down.

Stereoscopic camera (by Ross), pair of lenses, with rack and pinion, two slides; 60s.; approval; deposit. — C. A. Brant, Wokingham, Berks.

Half-plate Sands and Hunter's Tourist camera, to be used with gun stock for snap-shots, or for tripod, Swift's 14 in. landscape lens, with Iris diaphragm, Thornton-Pickard shutter, Eastman (new method) roll-holder, containing 33 exposures new method spring, only used three times; cost £12 13s.; will take £9.—B. R. Ba'tye, Dartington Hall, Totnes.

Lancaster's half-plate Instantograph camera and rectilinear lens, one double back, good as new; 75s.—Photo, Idrigehay, Derby.

Cameras and Lenses.—Half-plate Instantograph 1836, double back, lens, shutter, 30s.; also 7 by 5 R.R. lens, 25s.—Mrs. Ward, Gressenhall Rectory, Dereham, Norfolk.

Changing Box.—Lancaster's half-plate changing box, with double slide, will hold 12 plates, in perfect condition; 20s.—F. Hutchen, Thorngate Street, Kettering.

Dog.—Handsome black and tan collie dog, used to children, excellent house dog; 2s., or exchange.—Boston, Chester Road, Macclesfield.

Hand-Cameras, etc.—Optimus hand-camera, 5 by 4 R.R. lens, six double backs, to hold 12 quarter-plates or films; the shutter works at any speed up to 1/2 of a second; can be used on a tripod for time

exposures; in perfect condition; price £5; originally cost £7 11s. 6d.—To be seen at Brownings', 63, Strand, W.C.

Eureka detective, Roush's, morocco covered, for 12 quarter-plates, nearly new, perfect condition; £5.—31, Glenarm Road, Clapton, N.E.

Abraham's Ideal hand-camera for sale, immediately, in good order, perfectly new a month ago; £4.—Hy. Thompson, Grosvenor Terrace, Harrogate.

Stereoscopic hand-camera, specially built to own design regardless of expense, takes twelve 6½ by 4½ plates in six backs, fitted with a pair of Dallmeyer's patent stereo lenses, working at f/4, and easily dissected for use as single combinations, Wollaston's patent diaphragmatic shutter, rising and falling front, swing-back, and all needful appliances for the most perfect hand-camera and landscape work; satisfactory reason for selling; may be seen by appointment; cost over £40; will accept £25 cash.—Ajax, Gazette Office, 140, Fleet Street, London, E.C.

Universal quarter-plate hand-camera, with swing-back, rising front, turntable, etc., Wray's 5 by 4 lens, Eastman's roll-holder, with transparent film, three double slides, Thornton's time shutter, etc., detective case for apparatus, and canvas case for camera, etc., when used separate, four-fold tripod, the whole in perfect condition; cost £16 10s.; price £13.—H. G. Ponting, 18, Park Road, Southport.

Kodak, perfect condition, with case and manual, cost 105s., scarcely used; 70s.—H. Warner, 41, Highbury Park, London.

Kodak, No. 1, nearly new, leather case and strap, with manual, etc.; to immediate purchaser, 55s.; cost £5 5s.—V., Franklin Road, Harrogate.

Lenses.—Watson's No. 2 cabinet portrait lens, equal to new; cost 5 guineas; will take £4.—Sprague, 35, Darnley Road, Hackney, London, N.E.

For sale, a 5 by 4 Optimus extra-rapid Buryascope, quite new, never been used; cost £3 3s.; will take 45s.—S., 22, Chetwynd Road, London, N.W.

Marion's R.R. lens; cost 61s.; offers.—Taylor, Tannery, Marple.

Ross' 8 by 5 lens, rapid symmetrical, good as new; £4 10s. cash.—E. C. Brown, 336, Kingsland Road, London, N.E.

Dallmeyer's whole-plate view lens; price 80s.; list price £7; or exchange for good new half-plate Ross.—Short, 13, Endymion Terrace, Finsbury Park.

A half-plate lens (by Lancaster), suitable for instantaneous work, with stops, very little used, price 12s. 6d.; also a Marion's half-plate lens, nearly new, price 12s. 6d.; both these cost double.—Apply, Clarke, 46, Charing Cross Road.

Rapid rectilinear lens, half-plate, Hockins' Desideratum, 28s.; telescopic focussing glass, 3s.; approval; deposit.—Pope, Westonsfield, King's Norton, Worcestershire.

Having sold my larger camera, have for sale Ross' 8 by 5 R.R., good as new, £4 10s.; also Eastman's 5 by 4 roll-holder (old pattern), 30s.; Phantom shutter, 10s. (small).—C. W. Wall, 45A, Grove Street, Liverpool.

Lens and Shutter.—For sale, Ross' 8 by 5 R.S. lens, £4 10s., excellent condition; also Cadett shutter, 15s.—Address, W. Milburn, Brunswick Street, Carlisle.

Lens, Shutter, etc.—Quarter-plate lens, 7s. 6d.; shutter, 2s. 6d.; 35 AMATEUR PHOTOGRAPHERS, 3s.—G. Hammond, Bridgetown, co. Donegal.

Lens and Tripod.—Half-plate R.R. lens, cost £2, sell 25s.; also Lancaster's Universal stand, half-plate size, cost 15s., 8s. 6d.; approval.—T. O. Hosking, 35, Paullet Road, Camberwell.

Magic Lanterns.—Splendid magic lantern (by Newton), enlarges with perfect definition; cost nearly £4; price £2 6s.—Chapman, 21, Holland Park Gardens, W.

Magic lantern, four-wick, new condition; cost £4; sell for £2 15s.—C. L. Stevenson, Auchencrowie, Bannockburn.

Sets.—What offers for Lancaster's special patent quarter-plate camera, rapid Rectigraph lens, three double dark slides, shutter, tripod? cost £7.—E. Mayhew, 38, Castle Road, Kentish Town, London.

Underwood's quarter-plate Compactum set; cost 21s.; bargain, 12s. 6d.—H. Rowe, Wallbridge, Stroud.

Bargain. Complete set photographic apparatus, camera, chemicals, etc., for plates 4½ by 3½, quite new, with instructions, in lock-up travelling case, by Lawley, London, optician to Government; sell for 38s., not half cost.—N., 61, St. Paul's Road, Croydon.

Camera, bellows, 10 by 8, with four double backs, cone extension, tripod stand, inner frames, Sargeant's and Marshall's shutters, view finder, bulze bags for dark-slides, and box for camera; to be sold a great bargain.—Apply at Stanley's, 13, Railway Approach, London Bridge, S.E.

5 by 4 set, nearly new, price £7 10s., cost £12 10s., comprising 5 by 4 long-focus bellows camera, reversing back, single swing, six double slides (by Thomas), in locked waterproof case, Wray's 5 by 4 R.R. lens, with Iris diaphragm, focussing glass, velvet cloth, and three-fold light tripod, in waterproof case.—H. D., 16, Tabley Road, Holloway.

Half-plate bellows camera (by Stanley), reversible, with rising and sliding front and swing-back, two double dark-slides, with cloth numbered cases and

carriers for same, Optimus rapid rectilinear lens, with Iris diaphragm, folding tripod, focussing glass, and strong waterproof case; complete for £7 10s.; all thoroughly reliable.—W. A. Piggott, 6, Aldersmead Road, Beckenham.

Quarter-plate camera (Marlow's Instantograph) and stand, three double dark-slides, Optimus wide-angle and rapid rectilinear lenses, in Optimus case; price £5.—F. Johnson, 25, Arthur Street, Gloucester.

Sands and Hunter's quarter Exhibition camera, R.R. and W.A.R. lenses, shutter, tripod, also Optimus is 12 by 10 R.R. lens.—W. Charles, Duns, N.B.

Camera, Mason's 10 by 8, square, double extension, three double dark-slides, all brass bound, 18 carriers, in solid leather case, quite new, £10, cost nearly double; cabinet burnisher, with gas burner and tube, 17s. 6d.; 7 by 5 Optimus R.R. lens, 35s.; half-plate camera, three metal slides, and folding tripod, 27s. 6d.—Wilson, 71, Parliament Street, Ramsey, I.O.M.

7½ by 5 tourists' camera and three double slides, rectilinear lens, black travelling case and stand, all by Watson and Sons; cost new, £12; will take £7.—H. H. S., care of Watson and Sons, 313, High Holborn.

Stereoscopic Outfit.—Pair Dallmeyer's stereo lenses, complete, Meagher's 7 by 5 bellows camera, with swing-back, extra fronts, two slides, and extension (by Park), been very little used; cost £15; what offers?—B. A., care of McCann, Photographer, Uttuxeter.

Sundries.—Marion's (Knox's) hot rolling press, with 12 by 7 plate, cost £7 10s., will accept half; Marion's spray print-washer (special size), 2 ft. 8 ins. by 1 ft. 6 ins., with enamelled zinc tray, cost £3 15s., will take 50s.; Grubb's single aplanatic C lens, covering 12 by 10 in. McKellen's patent collapsible mount, cost £8, will accept £3; Lerebours ditto lens, cost £3 10s., will take 30s.; one half and one whole plate Vergara dark-slide, cheap; 18 teak whole-plate printing frames, 10s. the lot; Ferrero's 10 by 8 magazine film carrier, just new, cost £1 10s., will take £3 15s.; five dozen Carbutt's films to fit, and three dozen Paget XXX plates, half-price; about 200 good quality cardboard whole-plate mounts, 5s. per 100; Decoudun's photometer, 5s.; other surplus accessories equally cheap.—Ajax, Gazette Office, 140, Fleet Street, London, E.C.

Tricycle.—Humber tricycle, good condition, with lamps, tools, luggage carrier, suit amateur photographer; cost £24; price £8 10s., or exchange.—Stanistreet, 8, Harrington Street, Liverpool.

WANTED.

"Amateur Photographer."—AMATEUR PHOTOGRAPHER, numbers 174 and 191; 9d. each.—Debailly, 25, Hogarth Road, Earl's Court, London.

Dark-slides.—Two 7½ by 5 Blair's Featherweight double slides; approval.—A. Huddart, Eskdale, Carnforth.

Three Marion's double dark-slides, whole-plate, perfect condition.—Mrs. Benyon, Stukeley Hall, Huntingdon.

Enlarging Camera.—Enlarging camera, complete, wanted, cheap; state particulars, size condensers.—George Bowman, 12, Braid Road, Edinburgh.

Hand-Camera.—Hand-camera wanted, in good condition.—G. Foxall, 31, Beaconsfield Villas, Brighton.

Kodak, 1 or 2, latter preferred, in good condition, moderate price.—Mudie, 52, Park Road, New Wandsworth.

Rouch's Eureka detective camera, must be in good condition.—F. W. Dadd, 192, Mare Street, Hackney.

Lenses.—Half-plate R.R. lens, by good maker.—J. Thomas, High Street, Newport, Mon.

Lancaster's half-plate Rectigraph lens; 33s.; approval; deposit.—A. Huddart, Eskdale, Carnforth.

Quarter-plate rectilinear lens, Iris diaphragm preferred; state lowest price and maker.—No. 53, care of Publishers, AMATEUR PHOTOGRAPHER, 1, Creed Lane, Ludgate Hill, E.C.

7 by 5 or 9 by 7 Optimus Euryscope lens, also wide angle rectilinear, by good maker.—T. O. Hosking, 35, Paulet Road, Camberwell.

Lens, etc.—Optimus portrait lens, 1B, also Optimus wide-angle rectilinear, to cover 5 by 4, also half-plate, all latest movements, without lens and tripod, must be in perfect condition, also Lancaster's Mutton-in-Parvo camera, for enlarging up to 15 by 12.—J. P. Aspin, Grocer, Clayton-le-Moors, Lancashire.

Good cabinet lens, retouching desk; exchange splendid half rapid rectilinear, by Lawley.—Oliver, 5, Lonsdale Square, Barnsbury.

Roller Slides.—Two Eastman's quarter-plate roller slides; state lowest price and number.—Bing, ton, Old Trafford, Manchester.

Sets.—Whole-plate camera set; approval.—Apply, Piteber, 155, Kingsland Road, London.

Whole-plate camera set, Lancaster's Instanto preferred; approval; will deposit with Editor.—B. Jerome, St. Francis Xavier's, Mayfield, Sussex.

Half-plate square bellows camera, double extension, with all modern improvements, two dark-slides, Optimus R.R. lens, and tripod; give makers.—Ross, 10, Kemp Place, Edinburgh.

Tripod.—Whole-plate tripod, good make.—Murray, Brougain, Kent Road, Southsea.

PLEASURE CRUISES to the LAND of the MIDNIGHT SUN.—The ORIENT COMPANY'S steamships GARONNE (3,876 tons) and CHIMBORAZO (3,847 tons) will make a series of TRIPS to NORWAY during the season, visiting the finest fiords. The dates of departure from London will be as follows, and from Leith two days later:—

June 4th, for 15 days	July 15th, for 15 days
June 18th, for 27 days	July 23rd, for 27 days
June 25th, for 15 days	Aug. 8th, for 21 days

The steamers will be navigated through the "Inner lead"—i.e., inside the fringe of islands off the coast of Norway—thus securing smooth water; those of the 18th June and 23rd July will proceed to the North Cape, where the sun may be seen above the horizon at midnight. The Garonne and Chimborazo are fitted with electric light, hot and cold baths, etc. Cuisine of the highest order.

Dark Room provided for the use of Photographers.

Managers, F. Green and Co., 13, Fenchurch Avenue; Anderson, Anderson, and Co., 5, Fenchurch Avenue, London, E.C. For further particulars apply to the latter firm, or to the West End Agents, Grindlay and Co., 55, Parliament Street, S.W.

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NOTICES TO SUBSCRIBERS.

Subscriptions must be prepaid.

UNITED KINGDOM	Six Months, 5s. 6d.	Twelve Months, 10s. 10d.
POSTAL UNION	" 6s. 6d.	" 13s. 0d.
INDIA, CHINA, ETC.	" 7s. 9d.	" 15s. 3d.

NOTICES AS TO ADDRESS.

PUBLISHING DEPARTMENT.—All letters containing Subscriptions, Orders, Remittances, SALE and EXCHANGE Advertisements, or other business matters for the *Amateur Photographer* are to be addressed to the Publishers, HAZELL, WATSON, and VINEY, LD., 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

NOTE.—SALE and EXCHANGE Advertisements, at the charge of Three Words for One Penny, can be received as late as WEDNESDAY MORNING.

ADVERTISEMENT DEPARTMENT.—All communications respecting TRADE Advertisements in the *Amateur Photographer* are to be addressed to PARRY and CRAWFORD, 1, CREED LANE, LUDGATE HILL, LONDON, E.C.

NOTE.—Trade Advertisements are received up to Tuesday morning.

EDITORIAL DEPARTMENT.—All Literary Contributions, Queries and Answers, Photographs for Competition or Criticism, Books or Apparatus for Notice or Review are to be addressed to the Editor, *Amateur Photographer*, 1, Creed Lane, Ludgate Hill, London, E.C.

NOTE.—To ensure insertion, all Communications should reach the Editor on Tuesday.

CORRESPONDENCE SECTION.—Anyone wishing to communicate with Contributors can do so by forwarding such Communication in stamped envelope, under cover to the Editor, *Amateur Photographer*, 1, Creed Lane, Ludgate Hill, London, E.C.

sale of Photographic and Scientific Apparatus. Objects of Natural History and other Miscellaneous Property, July 3rd.

Messrs. PROTHEROE & MORRIS

Have pleasure in announcing that their next SALE of the above will be held at their

Central Sale Rooms, 67 & 68, Cheapside, London, E.C.,
On THURSDAY, JULY 3rd, at 12.30.

Entries should be made not later than one week prior to sale. Terms for selling and catalogues will be forwarded on application to the Auctioneers, and 68, Cheapside, London, E.C. Telephone No. 1809.

"AMATEUR PHOTOGRAPHER" MONTHLY PHOTOGRAPHIC COMPETITIONS.

THE Proprietors of the *AMATEUR PHOTOGRAPHER* offer, Monthly, two prize consisting of a

SILVER AND A BRONZE MEDAL (WITH RIBBON AND CLASP),

for the best and second-best photographs sent in to each of their Monthly Competitions. The subject of the Competitions will be as follows:—

LANDSCAPE WITH FIGURE	July 14.
GENRE OR FIGURE STUDY	Aug. 14.
INSTANTANEOUS PHOTOGRAPHS, ANIMALS ETC.	Sept. 14.

Only one print is to be sent in; the negative of the prize pictures shall be at the service of the Proprietors, and all the prints sent in shall become the property of the Proprietors.

In addition to the Medals being given, the prize photographs may be produced in the *AMATEUR PHOTOGRAPHER*.

All photographs for any of the above competitions must be received by the

FOURTEENTH DAY OF THE MONTH,

and as received will be acknowledged in the columns of the *AMATEUR PHOTOGRAPHER*.

Competitive prints are available for exhibition before Photographic Societies after the 1st of each month.

Entry forms on receipt of stamped addressed envelope.

"AMATEUR PHOTOGRAPHER" MONTHLY COMPETITIVE PAPERS, 1890.

THE following Prizes are offered for competition every month:—

Three Prizes of £1 1 0 each.
Three Prizes of 0 10 6 each.
And Three Certificates.

The Papers must not exceed 1,000 words; and those which are awarded Prizes will be published in the *AMATEUR PHOTOGRAPHER*; others will be selected, and will be arranged for publication in the

"AMATEUR PHOTOGRAPHER'S ANNUAL."

Contributions are to be upon the subject as list given below; and in order to make the matter more interesting, it is requested that each competitor shall give his personal experiences. It is intended that each subject shall be written up by a specialist for the ANNUAL, and the latest information given. All MSS. must be received not later than the

25th OF EACH MONTH.

Subject.

28th June	Plates and Films: their Development and After Treatment.
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All MSS. to be addressed to the Editor, "*Amateur Photographer*," 1, Creed Lane, Ludgate Hill, London, E.C.

EDWARDS' ISOCHROMATIC PLATES.

"Lafayette" writes:

"Dublin, March 29, 1890.

"You will be glad to hear that I have been awarded the Gold Medal at the Crystal Palace Exhibition. I am exhibiting four of the extra large pictures, size 33 x 19, and then some grand panels and 15 x 12's, all on your plates, and taken direct."

B. J. EDWARDS & CO., THE GROVE, HACKNEY, LONDON.

Elliott & Son's "BARNET" Dry Plate

Reasons why all Amateurs should use them:

Because they are evenly and thickly coated; Rich in quality; and are absolutely reliable. They are inexpensive, quickly developed, and never frill. And although they are very Rapid, they are at the same time easy to manipulate, and allow of great latitude for over and under exposure!

ORDINARY	{	$4\frac{1}{4}$ by $3\frac{1}{4}$	..	..	1/0 per dozen.		EXTRA RAPID	{	$4\frac{1}{4}$ by $3\frac{1}{4}$	..	..	1/4 per dozen.
		$6\frac{1}{2}$ by $4\frac{3}{4}$	..	..	2/3 "				$6\frac{1}{2}$ by $4\frac{3}{4}$	..	..	2/11 "

To be had of all Photographic Dealers, and Wholesale of

ELLIOTT AND SON, Park Road, Barnet, Herts.

FRIESE GREENE'S PATENT SENSITIZED OPAL CARDS,

Cheaper than Silver Prints, more permanent, and saving an enormous amount of time.

Negatives can be taken, and finished Prints delivered to the customer, ON THE SAME DAY.

PRICES (per doz. Cards): Cartes-de-Visite, 2/-; Cabinets, 3/-; Boudoir, 6/-; Panels, 18/-; $\frac{1}{2}$ -Plate Cards, 2/6; $\frac{1}{2}$ -Plate, 4/-; $\frac{1}{4}$ -Plate, 7/6.

The Company is also prepared to print from their customers' own Negatives, and DELIVER PRINTS NEXT DAY at the following

PRICES (per doz., including Cards): Cartes-de-Visite, 3/-; Cabinets, 4/-; Boudoir, 7/6; Panels, 25/-.

Two Samples, with full instructions and a finished Specimen, post free for 6d.

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These Enlargements on Celluloid are far superior to those on Opal, and possess the additional advantage of not being breakable. They can be had in White, Cream, and Imitation Ivory. Prices on application.

ENLARGEMENTS ON OPAL, CHEAP AND GOOD. SEND FOR PRICE LIST.

The Company would call attention to the introduction into the Market of a New Plate, the "EMPIRE" PLATE, which for rapidity and general excellence is unsurpassed at the present time.

"EMPIRE" DRY PLATES.

The rapidity of these Plates is such as to make them the quickest Studio Plate in the Market, giving as they do splendid results in the Studio, as well as in Outdoor and Room work.

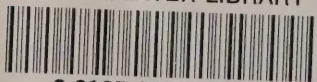
The Company guarantee this Plate for exceptional tone and detail. A trial of these Plates is specially recommended.

PRICES (per doz.): $\frac{1}{4}$ -Plate, 1/-; $\frac{1}{2}$ -Plate, 2/3; $\frac{1}{4}$ -Plate, 4/3; 10 by 8, 7/6; 12 by 10, 10/6.

THE SENSITIZED OPAL CARD COMPANY, LTD., 18, Alpha Road, London, N.W.; to be obtained also of Messrs. G. HOUGHTON & SONS, 89, High Holborn, W.C.



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